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NATIONAL PUBLIC HEALTH LEGISLATION.

The intelligence of the country appears to be with any measure of sanitation looking towards the prevention of disease and particularly combating actual infection. But it would seem that the intelligence of the country accomplishes very little in this direction for the formation and execution of permanent and well-directed measures. Such individuals as Col. Geo. E. Waring and Dr. Leonard Wood accentuate what can be accomplished by intelligent and well-directed effort. National public health legislation lags and year by year reaches a state of discussion, to die of lack of push from the nation's legislators.

Dr. U. O. B. Wingate, in a recent number of the *North American Review*, discusses this question well and intelligently. He favors a measure now before Congress known as the Spooner bill. It provides for a national commission of public health which shall be a bureau in the treasury department, the duties of which shall be to collect and disseminate information with regard to the prevalence of infectious diseases in this and other countries; to collect and publish vital statistics; to prepare rules and regulations for securing the best sanitary condition of vessels from foreign ports, and for preventing the introduction of infectious diseases into the United States, and their spread from one State or Territory to another; in short, to make investigations, publish information and formulate rules with a view to the preservation of the public health. The bill provides that the commission shall co-operate with existing authorities and supersede them except in the presence of an epidemic, when the local authorities are unable to cope with the disease or show inefficiency. The National Commission of Public Health shall be composed of a commissioner, a representative from each

State and territorial board of health, and a representative each from the medical corps of the United States Army, Navy and Marine Hospital Service; an executive committee of eight is provided for. It will be seen from this that the Spooner bill is a very cumbersome affair, and no doubt would be the source of very much expense, and we doubt as to whether a board of forty or fifty men could be wielded efficiently. The best illustrations which we have ever seen of real worthy and efficient sanitation have come from the single, competent and strong executive. We would much rather trust Dr. Leonard Wood at the head of a working corps than this multitudinous commission. No! the Spooner National Commission of Public Health, while it is far-reaching, is too much like a medical society—there would be too much talk and not enough done.

THE TRAILING SKIRT.

We notice in a recent issue of one of the lay journals a few thoughts upon the unsanitary and danger-producing elements of the long and dragging skirts of the ladies. The anonymous correspondent very witheringly says: "I suppose the love of women for something trailing behind them is a reminiscence of that remote state of human development when the spinal column had an appendix dangling down behind; this supposition appearing more probable by the fact that the women of some African tribes at the present time tie the tails of cows to their back, and she who has the longest tail trailing behind her is the proudest and most envied one of her sex."

There is no doubt as regards the unsanitary elements of long and dragging skirts; still we do not believe, like this correspondent, that it is a death-dealing agent to the world surrounding. That dust, with its compound elements of septivity is dangerous when stirred up, cannot be doubted; that a long skirt is a means of stirring up the bacillus tuberculosis promiscuously distributed by various sufferers upon floors and streets, and is competent to do the same, is equally true; but the relative infrequency of this cause makes a very mild death-dealing agent, and one not likely to menace public health very ponderously. That the trailing skirt is slovenly and filth-engendering, there can be no doubt; that under certain conditions it is unsanitary to the wearer and to others, there can be no doubt; but we do not believe it necessary to use a national health commission to combat it. Fashion seems to be a potent agent to take from the trailing skirt its death-dealing sting, for fashionable women rarely wear any dress long enough to make even a trailing skirt a menace.

FIGHTING THE OSTEOPATHS.

The Iowa State Board of Medical Examiners is to be complimented on its attitude toward the pseudo science called osteopathy. Regardless of the existence of a law apparently legalizing osteopathy, the Board has decided that the schools of osteopathy do not come up to the requirements of the Iowa medical law which the last legislature passed, and which went into effect on the first day of January, 1899.

A recent dispatch from Des Moines says:

"The State Board of Medical Examiners completed its work and adjourned Thursday. Before doing so it took another step in the osteopathic

fight. It was a decidedly forward move. A series of stringent rules was adopted, in which the board defines just what, in its view, the law meant by "a regularly conducted school of osteopathy." Members of the board who conversed upon the subject yesterday declared that they would welcome legal action on the part of those practicing osteopathy, for the result would be an interpretation of what the law meant, and that was just what they were trying to secure.

"President Scroggs stated that he had sought legal advice upon the subject, and he had been assured that the position of the board was unassailable. He believed that it was essential to the interests of the people of Iowa that, if the practitioners of the new school were permitted to engage in the practice of medicine in the State, the people should be guarded against quacks who, under the guise of something new, use their blandishments to wheedle people out of money. There are any number of irresponsible schools in the country, he said, sailing under the title of osteopathy, and the number of graduates coming from these institutions is marvelous. It was certain, he thought, that genuine osteopaths were being imposed upon. Regularly conducted scholars, who had put in the required time and had taken up the studies demanded by law, should be protected. That was the reason why the board took the action it did.

"The regulations adopted are very stringent. There is not a school of osteopathy in the country which would come within the requirements laid down by the board. The board followed the same lines used in determining whether a medical college comes up to the standard or not, with the exception of a change in the studies prescribed for students."

We hope that the position of the Board is unassailable, and that Missouri may soon be rid of its bone doctors and boneset governor.

INSTANT DEATH IMPOSSIBLE.

We notice in the lay press this question discussed with all due seriousness—that biological analysis seems to show that even decapitation cannot at once end human life. It is said that if we can differentiate between dead and live brain cells, we can more easily ascertain how long a time elapses before the death of the cell takes place. No one has proved as yet the difference between a dead and a live brain cell. This reminds us of the proposition, if the cell be round, how on earth can it come to an end? It is asserted that in both plants and animals, while they differ widely in their external appearance, they are fundamentally similar in structure. In the study of the cell the botanist, the zoologist, the physiologist, and the pathologist, go hand-in-hand. In the study of cellular elements the cell is the final element. As Virchow has expressed it, it is the vital elementary unit. From this point of view all the vital processes of a complex organism appear to be nothing but highly-developed results of the individual vitality of innumerable fundamental cells. If such is the true fact, how is it possible, by simple decapitation, to cause instant death in the millions of cells which compose the brain? It is claimed that each brain cell has its own life and is able to live a certain time after being cut off from outside nutrition. It appears to us that this individual cellular life is a mask for much that is indefinite and fictitious, inasmuch as no one has

seen a brain cell act under its true and essential vital conditions; things even under a microscope look really different from what they are. It is asserted that every brain cell does not die simultaneously with the body; that in certain diseases the brain cells are the last to die, and that they live a certain period of time after outward manifestation of death—for some hours—that is, we may have somatic death and molecular life. In the discussion of such subjects we are often led to the thought as to their relative value. A headless trunk, a decapitated head, are valueless, except for discussion; and it seems to us that is the only real purpose and use they can be put—to tickle the vanity of the general discussor. A man's brain cells may not be dead when a head is decapitated, but, like *Mercutio's* wound, it is ponderously and profoundly sufficient. Such discussions levy a tax upon each brain cell to fatuitously stir its extra convoluted mass. There is little benefit to the decapitated man to have his brain cell put under a microscope. While a man may not lose his identity when parting with his head, still he has lost about all that is of any especial value to him.

QUININE—AN EPITOMIZED STORY.

It was not until 1815 that cinchona bark was analyzed, and five years elapsed before the alkaloid quinia was found in it. It is stated of the Peruvian bark, only one-fiftieth comes from Peru, and that its chief source of supply being Madras—Ceylon holding second place; the two together supplying more than all the rest of the world put together. Peruvian bark first came into notice in 1638, when the Countess Cinchon, wife of the viceroy of Peru, lay ill at Lima of a tertian ague. Her physician was sent by the corregidor of Lona some of the bark, he having heard its virtues extolled, which, on being administered, brought the countess to a complete and rapid cure. Two years afterwards the countess returned to Spain, taking with her a supply of the bark for the use of the sick on her husband's estates. Under the name of the countess' powder its good reputation gradually extended. In the year 1670 the Jesuits sent some parcels of the powdered bark to Rome, which was distributed by Cardinal De Lugo, and it became known as cardinal's powder, Jesuits' bark; it is stated that in consequence of its receiving such names that no Protestants would have anything to do with it. It is mentioned that at a very early period a monopoly was attempted, which, for the time being, was highly successful. The story runs thus: The Jesuits persuaded the Pope to draw a line across South America, beyond which no tree should be recognized as yielding quinine. No matter whether it was better bark the Popes line made its virtue and any one doubting became a heretic. The Jesuits for a time monopolized the sale of this bark, particularly in Catholic countries; they lauded it to the skies, calling it an infallible remedy, under the name of *pulvis patrum*. John Talbor, an English apothecary, probably did more than any single person to establish the virtues of this remedy. He effected a great number of cures without revealing its name. Peruvian bark certainly made John Talbor, for in 1687 he was knighted by Charles II., the next year he became physician-in-ordinary, owing to having cured Charles II. of tertian fever. John Talbor was energetic. He went over to France, where he cured the Dauphin and other personages in high and

lofty places, but finally sold the secret of its preparation to Louis XIV. for two thousand *louis-d'or*, a pension and a title. John beat the Jesuits. Notwithstanding Talbor's success, the doctors fought this new remedy bitterly; some Parisian physicians averring that the new remedy was responsible for ninety sudden deaths in Madrid, alone. Still, amidst all opposition, it made its way, helped along by the powerful aid of Sydenham and Morton. The rest need not be told.

THE BARBER-SURGEONS OF ENGLAND.

In early times the clergy monopolized the practice of all branches of medicine. The monks devoted so much time to its practice that their religious duties were neglected and it became necessary for the church to take action thereon. The Lateran Council, in 1139, forbade the practice of physic by the monks. The eighth canon promulgated by the Council of Tours, in 1163, forbade monks staying out of their monasteries longer than two months at a time, and prohibited their teaching or practicing physic. No such restraint was placed on the secular clergy, and for many years dignitaries of the church were physicians-in-ordinary to kings and princes. Many of these reverend doctors were educated at Salernum and much of their knowledge came from reading the writings of the Arabians. In 1215 an ordinance of Pope Innocent III. forbade the ecclesiastics practicing any operation, for the reason that the church "abhorret a sanguine." Two later decrees, one by Boniface VIII., at the end of the thirteenth, and the other by Clement V., early in the fourteenth century, formally separated surgery from physic, and the practice of surgery was absolutely forbidden to the priests. Thus, surgery was turned over entirely to the laity, and barbers became its practitioners. The better class of barbers received instruction from the priests, assumed the title of barber-surgeons, improved themselves by making dissections, and, freeing themselves from the barbers, became a fraternity of surgeons.

EMOTIONAL EFFECT OF COLORS.

We have recently read in the lay press the most weird and startling effect which colors produce upon the emotions. The article speaks of the series of experiments now being conducted by Dr. William S. Wadsworth, assistant professor of physiology in the University of Pennsylvania. The article is introduced by a very effective prelude, by showing all cultivated people are lovers of fine music. Why he should say cultivated, we do not know, since we believe that lovers of music are not confined to the cultivated alone. That they at once appreciate the different emotional effects produced by the squeaking bag-pipe march and the dreamy, soothing cadences of Schubert's serenade. It is averred that certain combinations of sound drive men to battle and others lull them into sweet content and peace. But it has rarely occurred to the most thoughtful that the discords of color are more harrowing to the soul than the discords of sound. The eyes receive restfulness and restlessness from colors, according to their varied tints. In order to still further accent the hideous agony produced upon the emotional souls of persons he says: "The worst form of torture which the 'purple East' has ever devised has been by that color. The

twelfth grade of initiation into the Buddhist mysteries, the perfection of 'astral' education, so graphically described by A. Conan Doyle in 'The Mystery of Cloomber,' is the so-called 'color-test.' The neophytes are ushered into an extensive and lofty room, and at a given signal the whole surrounding space is flooded with an excruciating tint of purple light. It is reported by reliable witnesses that not more than three-quarters of those thus passed in are alive at the end of several hours, and that all of the survivors are more or less frenzied. When one is thoroughly exhausted the eyes are invariably blood-shot." Yet, if this be true, then, indeed, the world has existed in darkness for a long time. Now, then, inasmuch as they are using electrocution as a merciful means of death, and it would appear that the process is attended with such horrible concomitants, why not put these people in a space flooded by an excruciating tint of purple light? It might be possible, by increasing its excruciating element, to have it act as instantaneous as electricity. It would be an æsthetic means of execution; no smell of burning hair or flesh. The writer of the article goes on to state that while in the laboratory the doctor gave him a little bottle of purple liquid, and he was told to hold it up to the light and keep his eyes fixed on it. He says that at first it fascinated him; then it dazed him; it irritated; then it harried him, and he could stand it no longer. We wonder how this gentleman would do before a drug store, where we see those big, colored show-bottles, with a bright electric light behind them? We are free to confess that we have never seen anybody fascinated, then dazed, then irritated, to be finally harried by these brilliant advertising means of the druggist. A barber's pole is in danger of being a pathologizing agent, and some soap-maker's signs will be causing more than fits. He further says that a carefully-prepared fluid, filled with a particular shade, had a very peculiar effect, for he no sooner held it up before a nervous spasm went through him from head to foot—a regular cold chill. The doctor laughed when this happened, and said: "Oh, it gives you a spasm, too; well, I have touched your key-note." We have heard of people looking through glass too often having spasms. It must have been awful strong for one look to have done all this. He says blue glass is tuned to blue vibrations, so he would have a fiddle or piano tuned with blue, in order to get the proper effects when playing "Saul's Dead March." "Strike a certain note on the piano, and your dog howls." If you strike a hundred he'll howl, because it is his nature to. "Strike another, and a wineglass standing upon the table is shattered." Keeping such powerful note-pianos in the house must be expensive, or they must be peculiar pianos; for if all pianos did this there would be many shattered glasses. "Strike still another, and the gas flares up." How about the electric light? If these colors produced such profound effect, a modern dry goods store should be a regular holocaust fiend. If colors make the emotions ragged and neurasthenic, we have certainly lived among unknown enemies for a long time. It is only a blind man whose emotions are safe. All men, at one period or another, have had their emotions powerfully aroused by color, particularly if they enshrouded the sweetest thing on earth. We would much rather believe the assertions concerning color as found in the old sayings than the new emotionalism of color. Now, there is some truth in this assertion: "Red is love's color," said the red-headed man to his red-headed sweet-

heart; or, "He is false by nature that has a black head and red beard." Blue eyes say: "Love me, or I die;" black eyes say, "love me, or I'll kill thee." Anyhow, color is only skin deep; for black cows and black hens have white products, which is truer than excruciating tint of purple light producing death. Since the prosecution of Christian Science, we believe that only two things are needed to make any inanity grow—suggestion and hysteria.

THAT ANCIENT AND STILL THIS MODMRN ENIGMA.

It is asserted that not one doctor in a hundred could in an off-hand manner give anything like a comprehensive definition of hysteria: and yet it would indeed be an ignoramus who could not recognize it. Hysteria has been in the mind and on the tongue of the medical world for over two thousand years, and it gives promise of going on in its consideration for two thousand more; for the medical world is industriously and actively now engaged in striving to elucidate some of its intricate points. It is claimed that Foreslus was the first physician to distinguish it from syncope, apoplexy, epilepsy, etc., and thus commence the work towards establishing this trouble as a well-rounded, morbid entity. We suppose that Sennertus, having seen the by-play of excessive emotionalism engendered in persons during wars and periods of excitement, when individual after individual became hysterical, concluded that it was an infectious trouble. Hippocrates and Plato held that fanciful doctrine of the wandering womb. From the light as shown in Platos study of hysteria, we are compelled to say: "Plato, thou reasoneth wrong." This old landmark of reason Mr. Plato said that the womb was an animal, which desires ardently to engender children. When it remains sterile, it (this big brained womb) controls itself with difficulty (for it just gets mad to the roots of its hair); it is indignant, wanders about the body, obstructing the air passages, arresting respiration, throwing the body into extreme dangers, and causing diverse maladies. According to Mr. Plato, the womb just became a sort of an ambulatory, automatic paranoiac; a kind of boss tramp overseer; a wandering Jew sort of a thing.

Aretæus has always aroused in us, in consequence of his views on hysteria, a desire to picture him; hence, we love to let our imagination run riot as regards how he appeared. A dignified old fellow in flowing toga, sharp-eyed, alert, big nose, pointed chin, eyes watery, and would have worn spectacles had, they existed; a kind of mixture of an Oscar Wilde and Max Nordau order—a touch of Nordau's wonderful scientific love, with plenty of Oscar Wilde's putrid imagination. For Araetus accepted the incredible doctrine that the womb was an animal within an animal; just living in ecstasy, letting its passionate heart throb in the enjoyment of delicate orders. He gave the womb what the foot has not got—a nose; and averred, with all due solemnity—that solemnity which comes from rare scientific knowledge—that it was possible to drive the womb down by presenting odors to the nose, and to drive it up by presenting the same odors to the vulva. He, the same as Plato, gave it the use of feet to make speedy journeys, taking a morning's out, go up in the throat or the lungs; according to them, had muscular power to do almost anything, except handle Indian clubs and like trivialities.

Galen, that genius of common sense, taught that hysteria was caused by the suppression of the menses or a retention of the semen.

Piso, or Le Pois, gave hysteria a cerebral origin. Whyte approached the subject first in its modern scientific spirit.

Brequet, in 1859, placed it in position to be studied in the broad scientific method which characterizes it at present.

It is asserted that Brequet rendered the school of Charcot possible. It was this school of Charcot, presided over by a rare genius, which has rendered it possible to take in the broad and ever-interesting phases of this wonderful, amazing, and far-reaching enigma of medicine. To-day, a modern definition of hysteria would read that it is a psycho-neurosis—not a protean affection; but a well-rounded, morbid entity; never at any time a conglomerate trouble, but a profound and genuine disease of the cerebral centers. The physical symptoms are the most conspicuous, tending to disguise the mental phenomena and to simulate superficially the effects of various organic diseases.

Heredity is the almost universal cause of hysteria—the one great predisposing cause, since all others are only exciting. Colin says “the leading characteristics of the hysterical is the disproportionate impressionability of their psychic centers. They are, above all, impressionable.” Gilles de La Tourette says that, in addition to this disproportionate impressionability, a second peculiarity, equally as remarkable, important and exaggerated, is the exceeding ease with which they can be made to yield to suggestion. Now, suggestion has no limit; it may occupy the entire world, animate and inanimate. Suggestion is that which is introduced indirectly to the thoughts; to cause to be thought of by the agency of other objects; an intimation, an insinuation, a hint; to seduce, to tempt; information without oath or with it. In the vast field of psychic realms, none occupy, either in the normal world or the hysterical realm, deeper, more profound and far-reaching power than suggestion, which accentuates attention, the beginning element of brain use and waste. The hysterical have, in addition to an excessive emotionalism and unusual help in susceptibility to suggestion, a love of self enormously exaggerated. As Nordan says: “The hysterical person’s own ‘I’ towers up before his inner vision and so completely fills his mental horizon that it conceals the whole of the remaining universe.” Subject to suggestion, a passion for imitation, an hysteric desires to be as important to his fellow-men as he is to himself. Sense impression dulled or exaggerated. Red enthuses, exhilarates; violet enervates; indifferent to yellow and blue, owing to a hysterical, insensitive retina. The hysterical believe everything suggested to them with sufficient impressionableness. He believes. Consciousness in them, often acquires a distorted and blurred view; hence, they overflow in false judgments, false qualities, and false views. Attention, life’s prod to a brain, oft makes them weak and inattentive, then to overflow with excessive excitability. Imaginative, imitative, impressionable, a slave to suggestion, an abnormality of egoism, a mystic dreamer or a frenzied, deluded actor, and a martyr to forceful surroundings. An ill-balanced, deluded, impressionable psychic anomaly, hysteria may be not inaptly termed as the mob of the emotions which commits riot upon an emotional soul—psychic drunkenness which appears to exaggerate both vices and virtues.

Their inordinate emotions and sensibilities use up the very force that was given for use and happiness. Besides, hysteria gives a perfect view of man—makes plain within him the saint, villain, or fool. Alter Pope a little, and thus it reads:

Search for the ruling passion in Hysteria:
There alone are the cunning known, the wild constant,
The fool consistent, and the false sincere.

Again:

Hysteria, be thou what thou will,
Ruling Hysteria conquers reason still.

The writer has been interested in taking the general term of passion, striving to find whether the poet and others have unconsciously described many of the symptoms of hysteria. Thus, view these lines by Mrs. Landon:

“What is Genius but deep feeling
Weakened by passion to revealing?
And what is feeling but to be
Alive to every misery?
While the heart, too fond, too weak,
Lies open for the vulture’s beak.”

Change “Genius,” “feeling,” “heart,” and you have this:

What is Hysteria but deep feeling
Weakened by passion to revealing?
And what is Hysteria but to be
Alive to every misery?
While the brain, too fond, too weak,
Lies open for the vulture’s beak.

Again:

In Hysteria’s brain feeling overflows and thrills,
Makes suggestion glow to stifle reason still.

Again, as in Higgins, “hysteria” is put in place of “passion,” and reads:

When headstrong Hysteria gets the reins of reason,
The force of nature, like too strong a gale,
For want of ballast, oversets the vessel.

Or, as in Scott, for “passion” put “hysteria,” and you have this:

His soul, like bark with rudder lost,
On Hysteria’s changeful tide was tossed;
Nor vice nor virtue had the power
Beyond the suggestion of the hour.

The disproportionate impressionability of the hysterical is a constant and easy arouser of the emotions, and were it not for the fact of its ever-

changing moods, this turning back of the emotions upon the brain would lead to madness. It is only the fixed element of thought and emotions which constitutes the basis of madness. The changing phases of hysteria constitute it a momentary madness. The hysterical is, indeed, almost antithetical in character. He takes notice as meaning commendation, and precise ceremony as profound respect for him alone. His vanity is ridiculous; his pride contemptible; his words are so filled with exaggerated impressions as to make him, in the eyes of the unversed, as being a perfect prevaricator, a bold, willful falsifier. The foundation of all his trouble is grounded upon an inherited defect, where fancy, imagination, morbid mobility, extraordinary emotionalism, excessive excitability of imagination retints and conveys to his consciousness a maze of queer, ridiculous and senseless ideas. He is not a liar, but a germ-made romancer, a psychic, God-made electric battery, which plays tuneful discords to the forceful touch of suggestion.

Perchance hysteria may be the solution of the most famous of all enigmas, referred to as the "*Ælia Lælia Crispis*," an inscription preserved at Bologna, which has puzzled the wisest heads and has finally been given up as insoluble:

"*Ælia Lelia Crispis.*"

"Nec vir, nec mulier, nec undrogyna;
Nec puella, nec juvenis, nec anus;
Nec merstrin, nec pudica;
Sed omnia;
Inflata neque famo, nec ferro, neque veneno,
Sed omnibus;
Nec cælo, nec aquis, nec terris,
Sed ubique jacet."

Which, when rendered, does not inaptly picture hysteria:

"Neither man, nor woman, nor hermaphrodite;
Neither girl, nor boy, nor old woman;
Neither harlot, nor virgin;
But all of these;
Destroyed neither by hunger, nor sword, nor poison,
But by all of them;
Lies neither in heaven, nor in the water, nor in the ground,
But everywhere."

Even as a surgeon, minding off to cut
Some cureless limb, before in use he put
His violent engines on the vicious member,
Brougeth his patient in a senseless slumber,
And grief less then (guided by use and art),
To save the whole, saws off the infected part.

—DU BARTS.

CLINICAL LECTURES.

I.

MEDICAL CLINIC.¹

By FRANCIS DELAFIELD, M. D., of New York.

Professor of Practice of Medicine, College of Physicians and Surgeons; Attending Physician Roosevelt Hospital; Consulting Physician Bellevue Hospital, New York City.

CASE 1.—SUBACUTE MILIARY TUBERCULOSIS.—The first patient that I will show you is a woman, twenty-three years of age, who was admitted to the hospital on the eighth day of December. So far as we could make out, she has had ordinary health, except for a little cough, which lasted for two years. There are no night-sweats, and nothing at all distinctive about her history until the 22d of November, when, without exposure, she was suddenly taken with a severe pain in the back. She went to bed. Two days later she had a cough with a profuse muco-purulent expectoration. Since then she has been sick with a good deal of cough, muco-purulent expectoration, troublesome dyspnoea, dull pain in the chest, which is increased by cough and inspiration, and night-sweats. When she came in her temperature was 104°, her pulse 132, and her breathing 42. She looked like a very sick woman. Her tongue was dry and coated. There was found subcrepitant rales behind over the left lung; the air entering the alveoli heard over the right lung behind showed there was something in the way of a subcrepitant rale; the breathing was distinctly feeble, and the air was not entering as well as on the left. There was also comparative dullness. In front there was no change. The subcrepitant rales were distinctly heard. The liver, heart and kidneys were found to be normal. That was the history she gave upon entering. The sputum was examined for bacilli and none found. If you will look at the temperature chart taken since she came in you will see that she has been going on having high temperatures, running between 101° and 105° and over, being higher in the afternoon and lower in the morning. With these high temperatures the breathing has been about 48 and the pulse between 108 and 148. So she not only has been having a high temperature, but also rapid pulse and breathing. To-day is the twenty-first day of her disease, so far as we can make out. The main symptoms have been constipation, febrile movement, cough with profuse expectoration, rapid pulse and breathing. The physical signs show the subcrepitant rales over a large part of both lungs; the subcrepitant rales have been large showing a general bronchitis over both lungs, the bronchitis extending down to the smaller tubes. Over the left lung there is no pain. Over the lower part of the right lung the percussion sound is relatively dull and the breathing is diminished. Now, what do you believe is the condition of the lung—what disease is it? It is evident that she has a general bronchitis. Now, of course, in addition to that she may have an acute miliary tuberculosis; if that is so, in what part of the lung would you put it? On the right side and probably in the lower lobe of the right lung. That I imagine to be the condition here. This patient is an example of a severe form

¹ Held December 12, 1898, at Roosevelt Hospital.

of acute miliary tuberculosis involving part of the right lung. Now, with this there is a high temperature, which belongs to these marked cases, running up to 104° and 105° in the afternoon, and the marked prostration. In other words, there are evidences of marked systemic poisoning and rapid development of tubercular infection of the right lung. This is a case of acute miliary tuberculosis. Now, in this girl the conditions are not absolutely simple. She might have, in addition, a general bronchitis involving not merely the right lung where the tubercles are, but also the left lung where there is no reason to believe there are any tubercles. Still further than that, the marked change in breathing, and the dullness over the right lower lung, makes one believe that there is a diffuse pneumonia making a moderate amount of consolidation; that is, an exudative pneumonia. Whether, in this girl, there previously has been a tubercular pneumonia at one apex, with symptoms of influenza, we cannot be certain. From the character of the general bronchitis the influenza was probably the exciting cause; that is, there was an old localized tuberculosis with the poisoning of influenza, and a general bronchitis at the same time developed an inflammation of the lung. This patient, then, is not to be sent away, but she should be kept in bed and treated in bed as a patient suffering from inflammation. She is kept in bed, on a fluid diet, and constantly inhaling the vapor of creasote. This constitutes the treatment.

CASE 2.—LOBAR PNEUMONIA.—The next case I wish to show you is a woman, sixty-five years of age, who was admitted to the hospital November 27th. For several years she has had dyspnoea on exertion. She has had ordinary health until the 21st of November, when she was suddenly taken with a chill, vomiting, pain in the left shoulder, back and head. She has been sick in bed ever since. About the third day she began to have cough with a little expectoration. She has had no appetite and has been delirious since the 5th of November. She came into the hospital with a temperature of 102.6° , pulse of 112, and her breathing 36. Her tongue was dry and remained dry. The pulse was fair. Her breathing was shallow. The specific gravity of her urine was 1022, and contained no albumin and a few hyaline casts. Over the whole right chest behind down to the angle of the scapula there was dullness of percussion and bronchial voice and breathing, with fine crepitant rales; there was also crepitant rales at both bases. The bronchial voice and breathing was found in the axilla, high up. Over the right chest there was dullness and fine crepitant rales. In other words, the physical signs were those of a lobar pneumonia, involving the upper part of the right lung, and the history given was the ordinary one of the invasion of such a case. She came in with a dry tongue, with a rather bad-looking face, alternating delirium and stupor. Her whole appearance was that indicating not only a lobar pneumonia, but also the poisoning of a lobar pneumonia. She looked as if it was not a regular case, but one showing constitutional poisoning. There were more evidences of a bronchitis on the left side; the physical signs of consolidation of the right upper lung continued. Now, we can see the temperature running from the 7th to the 15th day, and it is a fairly high temperature; it has not fallen to normal. On the 15th day it was 103° ; then it went on to the 16th and 17th, and has since been lower. From the 17th to the 22d it has been running between 99.5° and 101° , but

yet the woman is not convalescent, and she is distinctly not better. She still has a dry tongue and has constipation, is delirious and does not take her food well. The consolidation of the right lobe still continues. This history is different from the ordinary histories of lobar pneumonia; she is behaving like a patient with typhoid fever rather than with lobar pneumonia. Still, I imagine that the lobar pneumonia is the only thing she has, but it is a particularly infectious form of it. The pneumococcus sometimes behaves in that way, the infection being entirely out of proportion to the extent of the lung involved. Three days ago the woman looked better—as if beginning to get out of her condition of poisoning. Although the lung was still consolidated, I imagined that she was beginning to emerge from her poisoning; yet she has not. She is not as constipated as she was. She has the typhoid face; that is, the venous face. The circulation is now better. She still has a temperature of 101° ; her tongue is dry and she cannot take food properly, and the lung is not yet resolving. Here is a long, infectious case of lobar pneumonia. The treatment of these cases is comparatively unsatisfactory; the only good treatment I believe to be with antitoxin, and we have not yet gotten it. We must do the best we can with good nursing. I use the following mixture:

R	Iodide of potassium.....	gr. v
	Ext. digitalis fluid.....	m ij
	Ext. convallaria fluid.....	m xv
M.	Sig.—Four times a day.	

The heart's action is fairly good. The pulse, on some days, is as low as 84. The breathing is not now very rapid. The pulse at first was 112; it now runs from 116 to 120. So that although she is still holding her own, yet she is still in a somewhat typhoid condition. This woman looked entirely different ten days ago; we did not know whether she would die or not. Now she is somewhat better and I believe will continue to improve.

CASE 3.—PLEURITIS WITH EFFUSION.—This boy is fifteen years of age. On the 1st of December he was suddenly taken with a chill and prostration. He came into the hospital on the 4th of December. On the first day there was a sharp pain in the upper part of the right chest, increased by cough and deep respiration. He had a muco-purulent expectoration and, at times, the expectoration was blood-stained. Since he has been suffering from the cough and the prostration. He came in with a temperature above 103° ; pulse, 112; and breathing, 28. The urine had a specific gravity of 1024; it contained no albumin. He came in with a temperature nearly 104° , and it dropped rapidly, and he has had a normal temperature for several days. He came in on the 4th day of his sickness; on the 5th day cough, and on the following day, the 6th, the temperature was nearly normal; and now, the 12th day, it remains normal. That would be the ordinary history of an influenza ending in recovery; but that was not all. When he came in he had flatness on percussion on the right side, from the clavicle extending downward; the flatness was well marked; there was absence of voice and breathing—and still further than that, one could see pulsation about the third intercostal space; this pulsation was distinct on the right side. In other words, the physical signs of a sacculated pleurisy in the upper part of the right chest was present, which pul-

sation was communicated by the heart's action through the fluid. He came in with a high temperature, and we could not tell whether it was a sacculated pleurisy or a sacculated empyema. But the rapid fall in the temperature and the improvement of the patient would make it probable that it was a pleurisy rather than an empyema. The physical signs have changed somewhat since he came in. Three or four days after coming in the flatness was less marked; still, the flatness was above the clavicle but diminished below, and it showed the fluid disappearing. But now there is marked flatness all the way down to where we strike the liver dullness. In the axilla it changes. The flatness remains in the upper part of the right chest. There is no vocal fremitus there; breathing cannot be heard over the area of flatness. The voice is absent. So that shows the fluid has been, apparently, diminishing in quantity at first and then increasing in quantity, although the boy's general condition is very good. I have been waiting because the boy has been doing so well before aspirating; I never aspirate in front, but place the needle in the back; there I do not hesitate, but I am not fond of putting in the needle in front; and, too, I am always willing to wait and see if the patient will get along without this procedure. Yet, in the boy, we will have to aspirate in the third space. The boy is eating well and doing well. At first the pulsation was visible but now it can only be felt. It is being absorbed. Although the physical signs are not now great, yet there is flatness on percussion. I cannot get voice or vocal fremitus.

CASE 4.—PNEUMO-THORAX.—This man came into the hospital on the 8th of December. He has had a cough lasting one week or two every September; at other times he has not been subject to cough. Last September the cough was worse than usual, but it ceased and he had no more cough. There was no dyspnœa or loss of strength; there was no renal symptoms. His appetite was good and his pulse regular.

There was the history of a man who, except for having a cough in September, was apparently in ordinary health until the 30th of November. Then, while sitting, he was suddenly taken with severe dyspnœa and felt, as he expressed it, "as if his spine was squeezed in a vise." This attack of pulmonary dyspnœa came on while he was quiet at the table. The pain continued but he could not localize the pain very well. The pain and dyspnœa continued severe during the afternoon of the next day, and then the pain and then the dyspnœa began to diminish. About December 3d there was no dyspnœa except on exertion. This has gradually diminished since. Since December 6th he has had a little dry cough without expectoration and no pain. There was no loss of strength or flesh. The appetite is good and the pulse regular. The chief complaint is the dyspnœa on exertion. When he came in his nutrition was good; the tongue moist and coated; the temperature was 98°; the pulse only 60, and the breathing 18. Remember, he came in on the 8th of December, after having had an attack of pain and dyspnœa on the 30th of November. His urine was normal. He did not feel very sick. The history and general condition of this patient would hardly make you think what the actual condition of this man is. You see, this man is not at all badly nourished. But you can see the apex of the heart is much further to the left than it should be; it is way over to the left. Then, on mensuration, the right side of the chest measures one

inch more than the left side. Upon full inspiration there is not much difference between the two sides of the chest. Percussion shows no difference in the resonance between the two sides in front. There is a little difference in the quality of the percussion note, the right side not being so distinctly pulmonary as the left side is. Auscultation shows amphoric breathing over the whole of the right chest.

Here, then, we find the physical signs show that the right chest measures one inch more than the left; that when the patient takes a deep inspiration both sides of the chest move; that vocal fremitus is present on both sides; that pulmonary resonance is present on both sides, but the quality is slightly different; the heart is tipped over to the left; that amphoric breathing is present over the right chest. Now, what has he?

This man has a pneumothorax, which is behaving differently from most cases. The time he had a sudden attack of dyspnoea was the time when a little cheesy nodule under the pulmonary pleura in the right lung ruptured, and then the air escaped from the lung into the right pleural cavity, which was accompanied by the pain and dyspnoea. The right pleural cavity has been distended with air from that time on, and the heart has been pushed over to the left side. There has been no accumulation of fluid. The reason why the man has been doing so well, with so little disturbance of the breathing or of the pulse-rate, with his nutrition and general condition so good after ten days, I suppose there must be the following reasons to explain it:

First.—The ordinary tubercular lesion on the right lung is really a small lesion, indeed, because it was not accompanied by systemic infection. There was no febrile movement at all. That means there was a small tuberculosis without systemic infection.

Second.—That at the end of ten days no pleurisy had been established. Of course, one of the principal dangers of pneumo-thorax following rupture of tubercular nodule and entrance into the pleura of this material is the irritation of the pleura and the subsequent setting up of a pleurisy with effusion. In this man there was no such irritation I suppose because the man was in such an excellent condition. One could hardly believe that a man could have such a serious lesion as this man has and yet do so well. There is no special thing to do; the air must become absorbed and that opening must heal up. So long as he has not developed a pleurisy his chances of recovery are good; he ought to get well.

To Apply Dressings to the Knee and Elbow.—Unna applies a layer of zinc oxid glue to the extensor muscles, above and below the articulation, and then paints a strip five centimeters wide around the limb, leaving the front of the joint untouched. The desired salve or plaster is then applied to the joint, covered with an impermeable cloth and then with a layer of the zinc glue. A long strip of gauze is then wound around the whole in a figure 8, crossing on the point of the elbow or knee, while the inner bend is left exposed. The outer layer of gauze is then painted with glue and a layer of cotton applied. This dressing remains in place, does not interfere with the movements of the joint, and can be left for several days.—*Semaine Méd.*, December 7th.

II.

MEDICAL CLINIC ON DISEASES OF CHILDREN.¹

By AUGUSTUS CAILLÉ, M. D., of New York.

Professor of Diseases of Children; Attending Physician to the Babies' Wards Post-Graduate Hospital; Visiting Physician to the German Hospital; Consulting Physician, Isabella Home and Hospital.

CASE 1.—PUSTULAR ECZEMA.—We have some very interesting material to show you this morning. Some of you have seen this case before. She has a pustular eczema. Remember, I told you to look for a nasal discharge; and it will be usually found in cases where the situation of the lesions is as seen in this subject. The ordinary method of treating these cases with plasters and salves is an unfortunate one. If you wish to get rid of it altogether, you should scrape off the scabs and then cauterize the bleeding points with nitrate of silver. The plasters and salves clog over the eczema and do no good; the glands become infected, and the patient becomes worse than she was before treatment. The proper way to treat these cases is to simply scrape away the scabs rather forcibly, as I am now doing. Then the bleeding points should be cauterized with a solution of nitrate of silver, ten grains to the ounce, and then the parts compressed for a short time until the hemorrhage stops. Over this, then, is placed zinc ointment to protect the parts. In about a week the eczema should heal over promptly.

CASE 2.—JAUNDICE NEONATORUM.—Here is a little baby who, if held in a good light, would be found to have a yellow color. This is an ordinary case of jaundice neonatorum. This child is thirteen days old, and there is nothing wrong except this yellow color. The pathology of this condition has not been cleared up, and there is no treatment so long as there is no fever. The treatment is really immaterial, for these cases usually get well, no matter what you may do. These cases are quite common; but, remember, there is no treatment to be directed to it if the case be not one of infection.

CASE 3.—ADENITIS FOLLOWING SCARLET FEVER.—Here is a little fellow with an adenitis on the right side of the neck, following scarlet fever. Now, you can treat these cases by running in a dressing forceps, after incising into the tumor, and so break up the glands, and in that way get rid of the trouble. But the surgeons here prefer to remove the glands entirely, so this child will be placed in the ward and that operation will probably be done.

CASE 4.—CHANCRE OF THE LIP.—This is a very interesting case and one that is extremely rare, and I want you all to come down and see this case closely. I call your attention to this lip, which, you see, is very markedly indurated, with enlarged glands on the same side as the lesion below the angle of the jaw. There is no adenitis on the opposite side. This is a chancre of the lip, and I caution you gentlemen to be careful and wash your hands after handling it. The upper lip is infiltrated and hard, as, also, is the submaxillary gland. There is a complete history of infection from some one in the family. This is a hard syphilitic chancre of the upper lip, with adenitis; the history of syphilis is very clear in this case.

¹ Held at the Post-Graduate Medical School and Hospital, on December 20th, 1898.

This child's parents have a boarder who is syphilitic and who has been kissing the child. This child should at once be placed upon mercury by the mouth, and, at the same time, by inunctions, in order to get him under the influence of the drug as soon as possible. The prognosis is favorable in children of that age. This is really a most unfortunate case—getting syphilis in that way. The treatment should be kept up for a year and then stopped for a few months, when it should be again resumed. I have seen the same person attacked twice in a period of twenty years. The man had syphilis with all the secondary symptoms, and was under treatment for seven years; after a few years he again was stricken with this trouble, with all the secondary lesions of the first attack. I believe a great many have seen this same feature.

CASE 5.—ACUTE MENINGITIS.—I have here to show you a case of pneumonia and also an acute meningitis—evidently a gripe meningitis. I believe Dr. Chapen has shown you the case before. The case was brought in with a normal temperature, and it suddenly rose to 104.5° , with accompanying symptoms of acute meningitis. My colleagues here will find in the babies' wards a tubercular meningitis which is moribund, and which has been watched for a long time. Whenever a case of meningitis is tubercular, we learn that fact from lumbar puncture and microscopic examination. By lumbar puncture you get nearer the truth. Although there is no real indication to do a lumbar puncture here, I think I will do it, to demonstrate the method. This procedure is calling forth a considerable amount of discussion; but its value has about been settled—not as a therapeutic, but as a diagnostic measure. This child is still in the excitable stage, but I will attempt to do it. The landmarks used in performing this operation are about as follows: I want to go between the fourth and fifth lumbar vertebræ. The position of the child should be the sitting posture, with the body bent forward and the spine so curved that the spaces between the vertebræ will be increased to afford greater facility in getting in. A good plan is to draw a straight line across from one iliac crest to the other, to locate where you wish to enter. Then place the finger-tips upon the spinous process above and upon the spinous process below. With the finger-nail we then make a mark, which will be the guide to the point of entrance of the needle of syringe. With the needle in the proper direction I now endeavor to get into the space, taking plenty of time. Now I believe I am in the space, and please notice that, as I withdraw the piston of the needle, a fluid follows the barrel of the syringe. After the removal of the needle, the cerebro-spinal fluid can be noticed oozing out through the puncture. Take care that the child is properly held, or the needle may be broken off. If you go in too far, you may puncture the plexus of veins, which will give you troublesome hemorrhage to deal with. One should first practice on a cadaver, and then it can be done quite readily. Now, what does puncture do? It gives you a fluid which can be examined and possibly show the presence of the streptococcus, or the staphylococcus, or the pneumococcus, or you may find a sterile fluid; anyway, this procedure will reduce the pressure by removing part of the fluid. Two or three ounces can be removed in this way. This that I have removed appears to be a little turbid; not much so. According to my personal experience, the cerebro-spinal fluid that becomes clear is not likely to be one of the vari-

eties of meningitis which will produce pus. We will examine this fluid and report to you later what we find.

As regards the treatment of this child—of course, there is no specific treatment in this stage. Assuming that the salicylates have some specific action upon some forms of microbes that produce rheumatic fever, it would not be out of the way to give salicylates. Nor would it be out of the way to give a dose of quinine. If there is any malaria in this meningitis, one should give a specific dose of quinine. I believe quinine should be given, anyway, to be followed later by the salicylates. Otherwise, treat the case symptomatically.

CASE 6.—PNEUMONIA.—This child is just recovering from a pneumonia, and now there is some dullness, bronchial breathing, and the typical signs of a pneumonia. This shows well the tubular breathing and other signs, and I wish you gentlemen to come down and listen to this chest. This little one is in complete defervescence. A grippe pneumonia in children is rather distinct. As a rule, there is some diarrhœa, with sudden onset, and intense redness of the pharynx. This case is quite characteristic.

In regard to the treatment of grippe cases there is no specific yet known. When taken in the very beginning, quinine and phenacetine, three grains of each in children and eight grains of each in adults, with stimulation, is given; under this medication they usually get along nicely. The treatment of pneumonia accompanying grippe is no different from the treatment of any other pneumonia. So soon as the grippe bacillus is discovered, and we can get the antitoxin, the treatment will then be very simple; but, with our present knowledge of the disease, the treatment must be symptomatic. In grippe pneumonia do not hesitate to place the patient in the wet-pack so long as the circulation is good; use the warm bath gradually cooled down to eighty degrees; before using this method, it would be wise to see if the child's feet are warm.

CASE 7.—PHIMOSIS.—This child has a phimosis. Any colleague here who wishes to perform the operation of circumcision can come down and do it, and we will assist him. If this was a dispensary case, to be sent away directly after the operation, it would be a good plan to use black thread in sewing, because it is easy to find it after a few days. In dispensary work also use iodoform or bismuth ointment, applying the ointment to the parts every time the child urinates. In dispensary practice you cannot make an antiseptic dressing as you could in private practice. If catgut is used, it becomes absorbed and does not necessitate removal; but I do not like the knots that must be used.

Why do I use ether instead of chloroform in this child? On account of the prejudice. If chloroform be given, and anything should happen and the child should die, the coroner's jury would make it very unpleasant for the physician; whereas, if ether be given, it would probably be all right.

INTRAOCULAR HEMORRHAGE.¹

By J. H. THOMPSON, M. D., Kansas City, Mo.



THE term intraocular hemorrhage means, in this communication, all forms of spontaneous hemorrhage which involve the inner tunics of the eyeball or break through the retina into the vitreous chamber. Of course, under this heading should come hemorrhagic glaucoma; but since that would alone comprise a thesis, I have determined to avoid the glaucomas and limit my remarks to retinal and choroidal bleeding.

Certainly, there are very few who can doubt the importance of this subject, for scarcely a week passes without some such case presenting itself; and, if I am to judge

from my own experience, without some degree of perplexity.

The diagnosis of intraocular hemorrhage is usually easy, but the etiology often difficult to determine.

The uncertainty of the cause has a marked bearing on the prognosis; and, since hemorrhage into the retina is frequently the first evidence of a mortal disease, its study is of paramount interest.

In passing, let me remark that in this branch of ophthalmology the physician and oculist must go hand in hand; for in the majority of cases the lesions in the eye are symptoms of grave constitutional disorders, which cannot be relieved by glasses or partial tenotomies. They call for considerable diagnostic skill on the part of the doctor, and imperatively demand that he should know how to examine the urine, test the arterial tension, and determine the condition of the heart. Another circumstance which should make this paper of interest is the subject is now being discussed by the entire ophthalmic world; started by Abadie in the Paris Ophthalmological Society, and participated in by such men as Panas, Fuchs and Ammon of Zurich, to whom I am indebted for some valuable ideas.

SENILE HEMORRHAGE.—It is not at all uncommon to find in the retina or vitreous of old persons evidences of recent or remote hemorrhage. They may be suspicious opacities floating in the vitreous, but usually there are blood spots disseminated over the retina or arranged around or within the macula. The extravasations may be along the arterial branches, which are evidently atheromatous; often they will be in places free of visible vessels.

In some instances I have observed quite large and well-defined bleedings around the macula, which were evidently under the retina, for they caused a baggy detachment of the retina. Sometimes the lesion is single; then, again, two or more large extravasations will be arranged around the posterior pole. Usually there are signs of diffused retinitis, viz., congested and tortuous veins, blurring of the disk, and large retinal trunks, with

¹ Read before the St. Louis Academy of Medical and Surgical Sciences, November 24, 1898.

patches of exudation and degeneration. But I have seen several cases of central hemorrhage without retinitis. It is not readily demonstrable at all times where the hemorrhage arises. Often the streaked character of the extravasation shows that it is in the retina itself; then, again, the blood clot will distinctly cover a vessel, showing that it lies adjoining the vitreous. I am certain that I have seen cases where the blood was between the retina and the vitreous body, detaching it as the serum may do in extreme malignant myopia.

A large clot may be between the retina and choroid, so that it is presumptive that a choroidal vessel has given way. I saw such a case some years ago. There was a well-defined detachment of the retina at the macula. It was round, about four dioptries deep and about two-thirds the diameter of the disk. It was filled with fluid—the upper part serum, the lower part blood; between the two was a well-defined horizontal line, showing where the red reflex ended and the colorless began.

Such are the usual forms at the fundus. At the equator the vitreous seems to have less resistance, so a hemorrhage—which in other parts would be limited to the locality of the ruptured vessel—will then, probably, break into the posterior chamber and form a large clot, or force its way between the vitreous body and suspensory ligament to reach the posterior surface of the lens. As said before, there may or may not be signs of retinitis. According to my observations, if there are multiple hemorrhages, or if the clots are large, there is always irritation in the retina. So I am inclined to think that the presence of blood in the retina is itself a cause for retinitis; and since those hemorrhages in the aged are nearly always associated with atheromatous vessels, and such subjects commonly have more or less albumin in the urine, it behooves one to exercise the greatest care that he does not mistake the condition for Bright's retina.

I now wish to leave the eye and make some remarks preparatory to the subject of albuminuric retinitis. I do not know how it has been with you but I have been laboring under many errors regarding albuminuria. We have known for a long time that there are cases of transient albumin in the urine in persons without disease of the kidneys, and that this is especially true of old people; many times dependent upon unknown causes, often directly attributable to gout, arterial sclerosis and heart disease. I had no idea that the condition was so common, and until my errors prompted me to especially study the subject, I was shamefully ignorant. Although albumin in the urine is strong presumptive evidence of disease of the kidneys, the condition may exist for a long time yet the urinary organs be perfectly healthy. Therefore, it is unwise to make the diagnosis of Bright's disease solely because of the albuminuria. In doubtful cases it should not be made until the urine is collected for several days and measured; its specific gravity is continually below 1018, together with granular and hyaline casts and a deficient quantity of urea. On the other hand, the kidneys may be markedly degenerated, with urine of low specific gravity and small quantity, yet, at times, containing no albumin. I say at times advisedly, for I have never yet seen a case of disease of the kidney, whether cirrhosis or chronic parenchymatous nephritis, that there was not found at some time albumin in the urine. The error that prompted my investigation in this line was regarding an old gentleman, fifty-eight years, a

strong, healthy farmer. He consulted me for partial blindness. There was marked neuritis, multiple hemorrhages into the retina, and a large clot free in the vitreous. The urine was albuminous. Therefore, I made the diagnosis of retinitis albuminurica, and expected him to die within twelve months. It is now nearly three years since I first saw him, and although he is totally blind in one eye, and nearly blind in the other, yet he is a picture of health, and his urine still contains albumin. I do not mean to say that these cases were not Bright's disease; but I do believe that often retinitis hemorrhagica is dependent upon causes irrespective of the kidneys. When the blood leaves an artery, it does so from one of two causes: either the vessel has ruptured or the blood itself is diseased. Nothing can so certainly lead to friability of the vessel walls as atheroma and the diseases induced by syphilis.

Therefore, in the class of cases like the one I have reported, it is well to consider these causes and differentiate between them and renal disease.

Multiple small hemorrhages into the retina, with or without retinitis, are very frequent in old persons with sclerosed arteries and diseased heart, without disease of the kidneys, and because there may be traces of albumin in the urine, they are not necessarily of deadly import.

We have not the time to consider retinal hemorrhage dependent upon scorbutus, syphilis, lead poisoning, diabetes, septicæmia, etc. I wish to call your attention particularly to the intraocular hemorrhage of adolescence. As the name implies, this form of hemorrhage occurs most frequently between the ages of eighteen and thirty, and more often in males than females. The extravasation may happen at any part of the retina, around the macula, or at the equator. The lesion may be a streaked blood stain in the retina, or a clot between the retina and choroid.

Unfortunately, there is usually an enormous outpouring of blood behind the ciliary body, which either breaks through into the vitreous, or forces its way between that body and the suspensory ligament to reach to or extend beyond the lens. Although we have reason to think that a single large vessel has given way, I have sometimes found, in cases of great hemorrhage, where it has been possible to see the extreme edge of the retina, that there were large, irregular blood-red patches, unstreaked and marmorated, resembling blood stains, and suggesting a condition called diapedesis. This fact is extremely interesting, for it throws some light on the cause.

One would expect that in excessive hemorrhage the diagnosis would be easy. With the pupil widely dilated the blood cannot be distinctly seen, even when the clot lies immediately behind the lens. By focal illumination it is possible to get a faint bloody reflex; but when we remember that such reflexes often depend upon the source and character of the illumination, it is hard to determine positively that what is seen is blood. This uncertainty only exists in the beginning, for as soon as absorption disintegrates the clot the light will pour through, when the nature of the lesion will be revealed. When a hemorrhage lies under the conjunctiva, or in the anterior chamber, the hæmatin soon stains the iris. But however large a bleeding may be in the vitreous, the iris is never stained, showing that the suspensory ligament is impervious to fluids. If it were

otherwise, the diagnosis might be easier. I do not mean to hint that we cannot determine that the black object behind the pupil is blood, but it is difficult, as is often the case in complete detachment of the retina, where that membrane hugs the lens. Such experience, I take it, we have all had.

The relation of the effused blood to the vitreous is important, for very soon the jelly mass liquefies, which subjects the eye to future changes, detachment of the retina, posterior polar cataract, etc. I must admit that I have no fixed idea of the cause of these hemorrhages in young people. I do not believe they are always from the retina, but often from the vessels of the choroid and from a constitutional cause. There is a peculiarity I have long noticed, which I find is mentioned by the latest authorities. It is, these subjects usually belong to the laboring class. All my patients have been young farmers who have been attacked shortly after severe labor in the harvest field. This fact, associated with the symptoms of blood diapedesis, makes it strongly probable that the cause is in the blood itself; so I think that such hemorrhages are at the time scattered throughout the body, but observable in the eye because a lesion there is strongly symptomatic which would in other places be unnoticed.

This disease is grave, for there is great probability that repeated bleedings will finally destroy the eye.

The treatment should be directed both to absorb the blood and to remove the supposed cause.

I am inclined to think that nothing should be given to hasten the absorption of the blood clot—that it should be left to nature and rest. The only medicine I know which could be of any service is the iodide of potash, but that is contra-indicated because of its harmful influence on the blood. Pilocarpin may be of service, and I think can be used with safety.

Usually, without any therapeutic help, the blood will be absorbed; but the danger is in a fresh hemorrhage. To prevent this is our paramount duty. My plan is absolute rest, gentle purgative, and the administration of the sulphate of quinine. Abadie highly recommends sulphuric acid, given in the form of lemonade.

For the retinal hemorrhage of old people with arterial disease, whether it be from gout, Bright's, or simple sclerosis, when there is an elevation of the arterial tension, chloral, with or without opium, is a remedy.

There is no doubt that the eye is subject to vicarious hemorrhage, suppressed menstruation and suppressed pile bleeding being the cause.

Is it possible, is it probable, that the intraocular hemorrhage of adolescence is in some way related to functional disturbance of the reproductive organs?

This is merely a supposition which may suggest to us, as Shakespeare said, that there are some things in the philosophy of nature little dreamt of.

THE GRIPPE EAR.

By FAYETTE C. EWING, M. D., of St. Louis,

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OF THE many complications of grippe, none are commoner than the "grippe ear." The average practitioner is wont to consider the so-called abscess in the ear from influenza as like that from any other cause. But the manifestations of acute suppurative otitis media as a result of grippe differ in essential and important particulars from the condition that arises from naso-pharyngeal congestion. The "grippe ear" is likely to present a hemorrhagic exudation before the tympanic membrane gives way. Not infrequently, with the rupture there is a discharge of blood—in other words, a true hemorrhagic otitis. A characteristic of the

grippe ear is persistence of pain after the rupture. In ordinary otitis such a symptom is of very serious import, indicating insufficient drainage and deep inflammation with tension. Politzer, Gruber and Truckenbrad experienced mastoid complications oftener than in simple inflammatory otitis; but this has not been the observation of many other noted observers.

The otitis from influenza is certainly more painful than that of the simple variety, but the consensus of opinion is that it is not less likely, with suitable treatment, to end in perfect recovery. The pain behind the ear in true mastoid disease is apt to be directly over the process, or at its base, while that from grippe otitis, without deep origin, is generally behind the process—at the junction of the occipital and temporal bones. Many such cases subside under vigorous treatment, which would indicate a neuralgic character.

The treatment does not differ materially from the simple inflammatory affection. In all cases of acute otitis, inflation, through a certain stage, to prevent ankylosis and adherence of the flaps to the side of the tympanum, as well as to keep open the eustachian tube, is most important. Just how long this inflation should be kept up can be determined only by a study of each individual case. If the physician does not feel himself competent to arrive at a correct conclusion, he should consult some one who is. Certainly, any deprivation of hearing cannot be lightly considered. Treatment that makes for cleanliness alone is only half the necessary therapy; but inflation kept up too long may result in harm from interference with the healing together of the flaps.

AFTER-EFFECTS OF INFLUENZA.

By ROBERT F. AMYX, M. D., St. Louis, Missouri.



THE epidemic of influenza which is at present in many of the larger cities of this country seems to have brought with it many conditions that were not given much importance, or were not recognized during former visits of this disease; this may be said of the conditions arising late during the convalescent period.

The attention of the medical profession was almost wholly given to the symptoms and complications during the acute stage and early part of convalescence; little consideration was given to symptoms arising at a later period until they

had reached a degree that became alarming to the patient. At present the profession are more alert to check as well as to detect any new phase of influenza, whether it be early or late, for experience has taught that any relaxation in their vigilance has often resulted in a fatal issue.

The pathology of influenza has not been fully ascertained; but this disease corresponds to all conditions dependent on a special micro-organism as the cause and in which the bacteria enters directly into the circulatory system. Very little is known regarding the mode of activity of the bacteria: the constitutional symptoms suggest toxemia, but the nature of the toxins is obscure. With such conditions existing there is always the possibility of serious after-effects.

The presence of bacteria and their toxins in the blood are always factors in lowering vitality and the general resistance. In many cases other diseases which have lain dormant have become active; and it is just such conditions that arise long after the patient has recovered from the acute stage of influenza.

The complications of influenza are very numerous and are all known to any practitioner. The most vital point to consider is the time of their most frequent occurrence, and the exception to this; for while they occur as complications during the acute period, the same condition may occur as sequelæ during convalescence, or later. Thus, pleurisy with effusion and, later, empyema becoming manifest after the patient had apparently entirely recovered. Pneumonia, both croupous and broncho-pneumonia, are among the most fatal sequelæ. Pericarditis, peritonitis and arthritis are occasionally met with—the latter more frequently after the acute stage has entirely subsided. Acute nephritis frequently occurs, and lasting long after the acute and convalescent stage of influenza. This condition usually tends to a complete recovery. There are exceptions to this, however, as it may terminate in the most fatal kidney lesions.

One of the most pronounced after-effects of influenza is prostration; this is in a degree altogether out of proportion to the symptoms and the dura-

tion of the attack. This symptom clings to the patient long after convalescence; and, in a few cases, melancholia and other mental disorders have existed.

Neuritis, myalgia and neuralgia are among the most frequent after-effects, often leading the patient to believe another attack was impending. Gastric and intestinal symptoms are often met with as late symptoms. Otitis media, conjunctivitis, iritis and inflammation of frontal sinuses are frequent after-effects. These are the more important conditions which may follow an attack of influenza. There are, however, many trifling symptoms which annoy our patients, viz.: sudden pains in joints, an inability to move about with the same ease as before, a general languor and lassitude that renders patient unable to carry out the ordinary duties of life without great discomfort, frontal headaches, flashes of heat, chilly sensations and a general indifference to everything.

In the female functional disturbances of the internal genitals frequently occur. Dysmenorrhœa, amenorrhœa and ovaritis are the most common. Metritis and endometritis are occasionally met with.

The nervous system is profoundly affected for an indefinite period after an attack of influenza, and this fact explains the many functional changes.

It will be seen that while an attack of influenza is generally short in duration, its after-effects may be wide-spread, of long duration, and many times fatal.

VARIOLA.

By A. H. OHMANN-DUMESNIL, St. Louis.



MALL-POX, or variola, is, beyond all doubt, one of the most dreaded diseases which afflict the human race. It has been known for centuries, and its ravages have been such as to decimate populations. It has been the most powerful factor in wiping out the North American from the face of this country. It has established for itself a reputation which has imbued peoples and nations with a wholesome fear of it and its depredations. It is not only among barbarous and savage nations that it has manifested its virulence, but in a manner as marked among the civilized

and enlightened. It is only, comparatively, of late years that it has ceased to be the scourge that it formerly was. There need be but little surprise at its rapid spread and the great mortality attending it, when we only bear in mind that variola is easily contagious, and eminently so, the very air seeming to carry the contagium with it. Of course, this is merely apparent, as the true source of inoculation exists in all the products derived

from the skin, the scales separated from the integument, as well as the crusts, being capable of producing the disease. For this reason ambulant cases in convalescence are to be dreaded as much as those in the height of the attack. Small-pox has been looked upon as to be dreaded as much as the plague or pestilence, and what has added to the dread is the fetid odor which is perceptible in a very marked degree. This odor is what has suggested to the superstitious the idea that the unfortunate sufferer was decomposing, and practically a putrefying corpse, although living and breathing. Such ideas would naturally engender panics, and, as a result, the patients were deserted and left to die alone and unattended. Another circumstance which has always aided in increasing the terror caused by the disease has been the scarring, pitting, and destruction of tissues or organs, following so many cases of recovery. In former times epidemics were engendered by the huddling of population, free intercourse, and general filth and filthy habits. In more modern times a prolific source of the spread of small-pox was the placing of patients with variola in the general wards of hospitals. Not only did this tend to spread the disease within the walls of the hospitals, but without, by means of the visitors who are always numerous in large public hospitals. In other words, isolation was not practiced, and its beneficial effects did not seem to be known or be appreciated to their fullest extent. Now that variola is not so prevalent as it formerly was, thanks to vaccination and better hygienic conditions, it is a matter of some importance that cases should be promptly recognized, in order that any possibility of the spread of the affliction may be prevented.

Among the symptoms which should always arouse suspicion and direct especial attention to any case are the prodromata. They are of such a nature as to easily lead to the idea that an exanthematous or eruptive fever is about to declare itself. These prodromic symptoms are of such a marked character as to be easily recognized in a general way, even by the laity. In addition to the general malaise, fever, restlessness, and general irritability of temper, there exist two well-marked symptoms in variola—an intense headache and backache, which seem well-nigh insupportable. The bowels are constipated, a diarrhœa being but very rarely observed. In women menstruation is apt to declare itself unexpectedly. Often a general flush overspreads the skin. In ambulant cases all of these symptoms may be but faintly marked or entirely absent, although anorexia is generally present in all cases, in a more or less marked degree. These symptoms are simply a notice which is furnished that infection has taken place, and, as a rule, they progressively increase in severity. This period of incubation is not one easily determined, and is, as a matter of fact, a variable quantity. It is usually looked upon as oscillating between seven and nine days. Its termination is ushered in by an increased temperature, which may or may not be preceded by a chill, and the appearance of the characteristic eruption.

The following table will be found useful as an aid to determine from the prodromata what one of several exanthemata the physician is called upon to pronounce upon and differentiate:¹

¹ This table is taken from the Illustrated Dictionary of George M. Gould, A. M., M. D.

TABLE OF THE EXANTHEMATA.

NAME.	PERIOD OF INCUBATION.	STAGE OF INVASION.	TIME OF APPEARANCE OF ERUPTION.	CHARACTER OF ERUPTION.	DURATION OF ERUPTION.	LOCATION	DESQUAMATION.	DURATION OF DISEASE.	CONVALESCENCE.
EXANTHEMAS.	Few hours to 3 or 4 days.	1 to 3 days.	Within 24 hours.	Efflorescence; bright red; polished; with well-defined raised margin.	4 to 8 days.	Face.	Branny, or in large flakes.	1 to 3 weeks.	Crisis.
MEASLES.	10 to 12 days.	4 days.	4th day.	Macules; small, dark-red, with crescentic borders. Complete in 24 hours.	4 to 5 days.	Face; then downward over body.	Branny; 8 to 11 days.	2 weeks.	Crisis.
ROTHEN.	8 to 17 days.	24 to 48 hours.	Within 48 hours.	Macules; rose-colored; rounded; discrete.	3 days.	Face and scalp; then downward over body.	Slightly branny.	4 to 7 days.	Crisis.
SCARLATINA.	1 to 21 days.	1 to 2 days.	Within 24 hours.	Diffuse; scarlet; punctate.	7 to 10 days.	Neck, chest, face; then over body.	Scales or large flakes; about 1 week.	2 to 3 weeks.	Lysis.
TYPHOID FEVER.	5 to 35 days.	6 to 8 days.	7th day.	In crops; rose-colored; lenticular spots.	Each crop 3 to 5 days; last 10 to 20 days or throughout the whole course of the fever.	Abdomen, chest, and back.	Slightly branny, or none.	3 to 4 weeks.	Lysis.
TYPHUS FEVER.	4 to 12 days.	5 days.	Usually 5th day; may be on 3d, or not till 7th day.	Measly spots; pebbled; streaks; color, mulberry red.	Few days, or may last throughout the course of the disease.	Sides of chest and abdomen; arms; back.	Slightly branny.	2 to 4 weeks.	Crisis.
VARICELLA.	4 to 14 days.	1 to 2 days.	Within 12 to 24 hours.	In crops; vesicles.	5 to 8 days.	Back, chest, arms.	Crusts; 5 to 8 days.	2 weeks.	Lysis.
VARIOLA.	8 to 14 days.	3 days.	4th day.	Unbilicated pustules.	21 to 25 days.	Face and over body.	Crusts; 12 to 22 days.	4 to 5 weeks.	Lysis.

Of course, this table is only approximate, and great care is always necessary in formulating a diagnosis and giving a pronounced opinion, for we occasionally find some cases which are more or less abnormal and aberrant and differing somewhat from the classic type.

As has been already stated, the first eruption which shows itself may be a diffuse erythema; but, usually, it is one which is papular. These at first show themselves in the form of pea-sized, dusky-red spots, which are not above the level of the skin. At this time already the peculiar shotty feeling is imparted to the fingers which are passed over this macular eruption. Later on each macule is transformed into a conical papule which is also of a dusky-red color. The same shotty feeling is imparted when they are touched. There is no particular pain elicited in connection with these lesions unless marked pressure be employed. The feeling which is experienced by the examiner when he touches the papules is as if there were large bird-shot under the skin. It is very marked and is peculiar to variola. In other eruptions hard papules may be encountered but they feel upon or above the skin and not under it. This is one of the symptoms which has been insisted upon in order to make a positive diagnosis of the disease. It is claimed, and perhaps with good reason, to be pathognomonic. At all events, it is of sufficient importance to arouse suspicions in regard to the true nature of an exanthema, and a case presenting such should certainly be closely scrutinized and carefully watched. The portions of the body upon which the first manifestations of small-pox show themselves are about the wrists, upon the chest over the sternum, and the face. This, of course, is not an invariable rule, for, sometimes, the first evidence of any eruption shows itself in the groins and axillæ or at their borders. So that it is good practice to always examine the entire body if there be any suspicion of variola being present, or if there be symptoms sufficient to arouse suspicion of the presence of an exanthema.

In a comparatively short space of time, say two or three days, the eruption will have become disseminated and attained the full measure of its distribution. It is then that a metamorphosis is observed to take place. The papules change in their nature and are seemingly replaced by vesicles which are a little larger, perhaps, than the lesions which formerly occupied the same sites. Each lesion is surrounded by a rather bright-red areola which is sharply defined against the unaffected skin. As a rule, these vesicles are discrete in their distribution and show no tendency to coalesce. When they do coalesce, it is after umbilication has taken place and is always a more or less serious symptom, evidencing a want of tone in the tissues. In Figure 1 is shown a good example of the vesicular stage of variola. It will be noted that there is no eruption on the chest of one patient and very little on that of the other. The limbs and faces show proportionately more vesicles. These vesicles have a conical form, primarily, but this does not persist long. A change manifests itself in the way of a central depression at the apex, and this depression is known as umbilication. This is regarded by the large proportion of physicians as an unfailling and pathognomonic sign. And yet, cases occur in which it is absent; and, on the other hand, there are vesicular eruptions in which there is umbilication of some of the vesicles and no variola present. The vesicles, in variola, are filled with a translucent fluid and their walls are

well distended at first; later on, some of the fluid is absorbed and this it is which aids in producing the umbilication. The translucent fluid soon becomes more opaque in its appearance and gets to be yellow in color. In other words, the serum is transformed into pus and the vesicles become



FIG. 1. Variola (Vesicular Stage).

pustules. Whilst this transformation is going on a certain amount of absorption of serum takes place and the umbilication becomes still more marked. In some cases the walls of the lesions become flabby, and this is always a bad sign. The absorption of the serum still continues and is then followed by desiccation. This latter process is progressive and its

final outcome consists in the formation of crusts. The appearance of a case in this stage of the disease is shown in Figure 2. As will be observed, the entire body and face is covered with the crusts and the patient is in a state of convalescence. It is in this case that particular care must be taken not to expose any one to contagion.

One of the most marked symptoms of variola, from the onset of the eruption to its final disappearance, is the intense itching which is present. It is constant and intolerable and a source of agony to the patient. Those who have experienced this, state that it is simply indescribable in its tortures. Scratching affords but little relief, and it is a most prolific cause in the production of subsequent scars in the form of "pits," linear or corded



FIG. 2. Variola (Crustaceous Stage).

cicatrices, or deeply-depressed ones. These scars are also due to the erosive action of the pus; and when the pustules coalesce, superficial ulcers are apt to form. The results of these are to be seen in the unsightly seams and scars which occur after recovery in some severe cases. The itching which is present in convalescence, in the crustaceous stage is very apt to be a source of great danger. When it is taken into consideration that the scales and crusts are active as media of contagion, it can be easily understood how the scratching of a patient may separate and scatter them about in such a manner that others can easily get in contact with them. This is a very potent reason for keeping small-pox patients isolated until their convalescence is terminated and the skin restored to a complete state of health. Not only this, but his clothing, bedding, sheets—and, in fact,

every article which has come in contact with him—should be burned, and those object susceptible to the treatment should be subjected to the strongest antiseptics in order to ensure the certainty that all possible danger of contagion has not only been removed but destroyed. It is in this way only that the so-called *contagium* can be eliminated.

There are some varieties of small-pox which occur which are far from classic in type. The confluent form is particularly severe. In these the pustules become confluent and large blebs with sero-purulent contents occur. Temperature has a high range, as high as 107° or more, and convulsions may occur. Albuminuria is marked, the urine being scanty. In such cases the hair falls out and the nails drop off; and if the purulent process has been sufficiently developed, they will not always grow out again, or only partially. Another variety which is always of a serious character is the hemorrhagic. In this the several lesions are more or less hemorrhagic, and constant vomiting may manifest itself. It is most common among drunkards, the old, and in cachectic subjects. The so-called malignant variola is a variety of this, which is not only most severe in form but generally quickly fatal. Convulsions and coma, resulting in death, occur before the characteristic eruption is observed. The temperature will rise up to 110°, and there is constant vomiting with occasional diarrhœa. In some cases the eruption appears, the papules being of a dark-blue color and surrounded by a purpuric areola. There is hemorrhage from the stomach and bowels, and the urine is loaded with albumin. Finally, there is hematuria. This last variety is that which is ordinarily denominated "black" small-pox, although the term is also applied to such as die before the appearance of the eruption. In these, a few hours after death has taken place, the body turns black. This sudden change is one calculated to send terror to the heart of the uneducated and shake the nerves of even an educated layman unacquainted with this peculiarity in the course of the disease. Such cases, however, are not frequently seen nowadays, although as recently as June 16, 1898, Dr. E. B. Glenn reported the occurrence of such a one in his practice to the Buncombe County Medical Society, of Asheville, N. C. Modern conditions and treatment will undoubtedly make the occurrence of such a case a rarity.

Vaccination is the prophylactic for variola. It is only efficient to prevent the development of the disease and entirely inefficient to arrest it once it has begun to develop. It is even a matter of observation; and I have seen it that once variola has been acquired, it will progress unchanged and the characteristic vaccine vesicle will form and declare itself. Nevertheless, under proper conditions vaccination would prevent the occurrence of small-pox. Of course, a simple vaccination is not sufficient, but revaccination should be practiced until the individual is refractory to it after successive vaccinations. This is only efficient for a certain number of years, and at their expiration, say five or six, vaccination should again be practiced. The immunization which it confers exhausts itself and must be renewed. It is the same with variola. It immunizes for a certain number of years only and the individual again becomes susceptible. There is one in St. Louis who has had small-pox seven times and expects it again. Nevertheless, the good effects of vaccination may be judged from statis-

tical reports. Condomine records,¹ that small-pox destroyed, maimed and disfigured a fourth part of mankind. One boy in nine and one girl in ten died from small-pox. In Europe, on an average, two thousand deaths from small-pox occurred to every million living. Six millions out of every twelve died in North America, and two-thirds of the population of Greenland. Before the era of vaccination the death-rate from small-pox was about the same in Sweden, England, Prussia, Austria and Belgium, the average being about two thousand per million. On the introduction of optional vaccination, mortality dropped everywhere to about four hundred per million. When compulsory vaccination was adopted in Prussia, England and Sweden, the mortality was reduced from twenty to forty per million. Austria and Belgium retained the old optional system, retaining also the old mortality statistics.

After admitting the undoubted value of vaccination, a question which naturally arises is, should bovine or humanized virus be employed? It is true that more rapid effects are obtainable from the latter, but this advantage is more than counterbalanced by the possible dangers which may follow in its wake. The transmission of leprosy is certain if the lymph of a vaccine vesicle on a leper be used. As a matter of fact, competent leprologists maintain that this method never fails where others have failed. Of course, there need be but little fear of this contingency in the United States. There are, however, two other troubles which are very prevalent and which no physician can ever justify himself as producing, even inadvertently. These are tuberculosis and syphilis. The necessity of inoculating with humanized virus or from a "scale" may have existed at one time, but it disappeared long since. In these days, when bovine vaccine virus is so readily obtained, there can exist no excuse for using any other kind. Those who furnish it are able to guarantee its purity, and as it is now put up in sealed tubes, no fear or hesitation need be felt in its use. The day to practice prophylaxis has arrived, and it can be successfully carried out without any fear of failure or hesitation on account of any possible danger of inoculating some other disease which is, perhaps, worse than small-pox would be had vaccination not been practiced. Vaccination is the true prophylactic method, and the virus which should be used is, beyond question, the bovine.

The treatment of small-pox is, in great part, symptomatic. A great many complications may be prevented by the adoption of very simple measures. Thus, secondary fever, pustulation and its consequences may be prevented by excluding all white light. Deep red glass windows or curtains will accomplish this, as the violet or irritating rays are thereby excluded. The period of suppuration is very much shortened, and there is no pitting, or very little. The fever is to be treated like any other fever. Occasionally, alcohol will be found of value, especially in grave cases, but should be administered with caution. The headache and backache should be treated with acetanilid, phenacetine, or some similar agent. Chloral or, better yet, the bromides will act well in overcoming insomnia or restlessness. One of the principal things to do is to husband the forces of the patient as much as possible. To accomplish this light nutritious food is to be given, and, in addition, some assimilable preparation of iron. A

¹ *International Medical Journal of Australasia.*

symptom which needs particular attention is the itching. Various preparations have been recommended for this, but none is more than a palliative at best. A one per cent. ointment of salicylic acid in lard is employed by some. Others use a one-half per cent. ointment of camphor in lard. One source of the relief which these ointments afford is the lowering of the temperature brought about by the inunction. To prevent pitting of the face various methods are employed. Thus, each pustule is opened and emptied; or flexible collodion, glycerole of starch or simple cerate applied in a thick coating. As has been stated above, the scales or crusts are a source of danger to others; and in the desquamative stage the entire body should be well oiled with some bland oil or a very soft, soothing ointment. This will prevent the scales from flying about, soften the crusts and greatly add to the comfort of the patient. There are many other little points connected with the treatment of variola; but they will readily suggest themselves to the practitioner. If the general principles be carried in mind, there will be but little difficulty experienced in the proper treatment of a case of the disease and in carrying it to a successful issue.

MAN'S INHERITED MARTYRDOM—A FITFUL STUDY OF DEGENERATION.

By DR. WARREN B. OUTTEN, of Saint Louis.

[CONTINUED FROM THE DECEMBER ISSUE.]

CHAPTER VIII.

THEODORUS.—And now, sirs, you have heard the story; and we have examined this man, and find him, forsooth, a neurasthenic degenerate—shown in many ways by the mental evidences of his condition, but not so plainly by any physical stigmata or marks. He hath a dread, not only of heights, but agonizing spells toward other things. He has emotional attacks, constantly accompanied by bodily symptoms, pains over his heart, paling and flushing, moist hands and feet; chills and tremors, and swooning at times. His mind is in a state of nervous exhaustion—a most sad and helpless plight.

A man's will is a man's power. Aye, his joy, and the very essence of life as a healthy being. The will makes possible man's genius, his reputation, his usefulness, in this strife-filled life. Yea, it gives action—the breeder of all human effort. Nay, then, this man, whom we now consider, shows but the fated and fatal weakness of a human brain. His mind was born already vanquished; for he has inherited an impotent will. With him, to be weak, is, indeed, to be miserable; for his brain, as his story proves, is in a state of nervous exhaustion—that is, enfeebled and helpless; for his will hath not power or strength to act as in health. Truly, his will is diseased; yet, 'tis plain to see, his intelligence still bides with it—in full power to know his own thoughts and to understand his mind's doings, although it but fails to control his erring will. Nay, his mind is

beset with fixed ideas, which he cannot banish. Aye, too, he is a degenerate, in that he has grown worse than the ancestor from which he sprang, through heredity. Nay, 'tis sad, but true, that even an inherited and nervously exhausted brain, as in this person, may be intelligent, bright, and, forsooth, even quick-witted. But with these mental goods come the towered ills of infirmity; for they are foolishly timid, with a tremulously weak will; for their minds o'erflow with feeling, agitation, perturbation, and an intense susceptibility to disturbing impressions. They are tyrannized by ideas, thoughts, and emotions, and are, at all times, easily and readily worried and worked-up by absolutely nothing. They are oft infirmity's own; racked with pain, disordered nerves, neuralgia, heart beatings, exhaustion, and a general weakness. Thus, 'tis true that the great bulk of brains in nervous exhaustion, enfeebled and helpless, are inherited, and have grown worse than those from which they came; thus become degenerates. And this degeneracy is shown in defects of the head, ears, eyes, or other physical parts. They live in this condition for indefinite time. Their trouble, now and then, abates in severity; and, at times, go so far as to desire, nay, even pray for, death.

THEO CELSUS.—Alas! Woe to him whose brain is drained of nervous force; for this but seems a will's deep disease. Such men think; they know; aye, they can tell their woe, and bewail it in vain longing. For, here, action doth seem to give way to inaction; and inaction is but dead result. Aye, a soul robbed of its will is a soul entombed. Their grief is not tuned in hope; nor is there any comfort in their adversity. They have no energy; for hope is lacking. Aye, to me it doth seem that hope is, indeed, the nearest offspring of will; for hope, alone, makes us willing to live; while in a brain drained of its nervous force, the lack of hope makes them willing to die. Hope may be as cheap as despair to the healthy; but to these poor brains in a state of nervous exhaustion, hope is beyond the purchase, and despair is a willing gift. 'Tis said that "hope maketh the fool rich." But their lack of intelligence doth but make them poverty's jade.

PARA BLAR.—True, and sadly true; for this is, indeed, wretchedness. But let's get at the root of the trouble! Now, then, as I understand, the will is that faculty, endowment, or function of the soul, with which it is made capable of choosing, preferring, or selecting one, two, or more objects. The will represents the power of the mind; volition, act—that is, it is will in action. The will is the ruler; volition but the servant of the will.

Thus have I read: we have two kinds of diseased will.

Now, then, forsooth, listen! When the brain is in a state of nervous exhaustion—that is, enfeebled and helpless—this brain's mind is beset with an idea, emotion, or irresistible bent, through lack of will-power to restrain. This, then, is impulse, or that which acts unprompted, and instinctively.

Again, when the brain is similarly in a state of nervous exhaustion—that is, as stated, enfeebled and helpless—and this brain's mind is likewise beset with an idea, emotion, or supposedly impossible but desired duty, through a lack of the will's volition—this, then, is loss of will.

Thus, the former brain's will-power acts as an impulse—that is, blindly and instinctively; while the latter's incapacity is due to a want of volition; for volition is but the desire to act.

The will acts either sluggishly, or not at all.

Nay, then, let us see how the healthy brain performs its function.

Thus, the healthy brain can either act, or restrain action. Hence, when the brain is crowded with ideas, these ideas can be either fixed in the mind, or rejected, just as the will prefers; while the brain in a state of nervous exhaustion acts altogether differently. A weakened will-power tries, in vain, to drive away an idea induced by instinct; hence, there arises mental strife between self-controlled will-power and strong impulse.

In this test of mental worth lies the turning point in the conflict with torment and fear, which results either in a yielding to the impulse or in nervous exhaustion.

Now, the brain in a state of nervous exhaustion, acting under the impulse, has its mind invaded by ideas self-acting, under the influence of a diminished, halting, or suspended volition.

The fixed idea is the germ of an impulse's besetment. Now, when this will is thus beset, there comes either impulse or no will at all; and thus there arises what we may call a soul's moving power, terminating in paralysis, or in irresistible act, which is impulse. All besetments of impulse have an intellectual source. Any idea that is instinctively or spontaneously born within us, no matter what it may be, may become fixed in a soul so enfeebled, and hence are called besetments. Such besetments may be as numerous as thoughts, and thoughts are as numberless as the sands of the sea. Thus it is that the tyranny of the fixed ideas oppress the nervously-exhausted brain—as constant grief and misfortune.

THEO CELSUS.—I pray thee, stop, and give me but time for thought and breath; for here haste courts worry and confusion. For the brain's action doth ever well in wonder, when under close consider. My mind, when in query about its very self, begets strange and easy muddle. Hence, I must go slowly, if I would but comprehend. God's greatest created substance commands our most grave and powered thought. Now, I pray thee, patience! But let me state what I do but mean, which is the brain's healthful action!

Nay, I earnestly court thy correction, if I do but err. Thus, the brain's capacity to feel or perceive is aroused and put in motion by the various thoughts, ideas, or emotions coming to it, where they finally produce an indefinite number of more or less complicated modes of action. Thus, two kinds of counter-action are produced: first, the counter-acting tendency to restrain or hinder action; second, that tending to strengthen with new force or impulsion; the act suggested by the impelling idea, thought, or emotion. That is, the certain thoughts, ideas, or emotions are, as it were, felt by the brain, which hinders or restrains such as it desires, or puts into action such as it determines should be so.

Now, then, let me ponder; and, perchance, I can make it plainer still. Thus, then, when the brain has certain thoughts, ideas or emotions, it hinders or restrains some of them, while it impels others, as it sees fit. Nay, then, perchance this will, in smaller numbers, prove as ease's explanation. Thus, in health, the mind wills or wills not, as it sees fit; and, on the contrary, in disease, the mind wills or wills not, but as disease compels.

HEINE LANIUS.—Forsooth, I but admire thoughts which grow with age; for they seem as marveled inspiration. What can be truer than the

assertion of Epictetus that "there is nothing good or evil, save in the will." Aye, this assertion depicts a healthy will, as well as one diseased. Nay, thy nerve-exhausted, degenerate brain cannot force its will; for that but controls the mind.

Can there be deeper misery, more distress, or greater worry than when one who might will to do a thing is utterly incompetent to act out, or do that thing?

Now, impulse, forcing a soul's blind action, courts vagaried result; and Hinton doth wisely state: "I venture to suggest that the most developed man is he who has the least reason for not simply obeying his impulses; or, that perfect impulses mark the perfect man." For impulse most oft marks the action of a will diseased, and this action hath but blind purpose.

THEODORUS.—Order is regularity's rule, method's maker, and a rare gift of intellect; and this question but demands thought and order that ease may attend elucidation.

The brain's nervous exhaustion, we are told, doth, as a rule, come in heredity. The brain thus hath ever complete knowledge of what passes in its own mind. The attendant mental anxiety bides with consciousness. Now, then, this trouble may abate, and there may occur, at intervals, periods of ease. Yet, these are indefinite in duration; for the trouble persists throughout the entire life of the afflicted; and, in truth, keeps its soulful nature. Persons so afflicted do but constantly and unceasingly dwell upon their mental infirmity, which, at times, may lead to the direst consciousness.

These, then, are the features of this mind's besetment. Vices acquired and vices inherited beget a mind's affection or nerve's disease. All thrive in fruitful soil and under stressed circumstance. It matters not whether they act but slowly or rapidly, still there comes nervous exhaustion.

Now, then, we find this but leads onward to a mind overworked, great fatigue, excessive vexation, chagrin, humiliation, depressing circumstances, and other wearing causes. The degenerate's besetments, as has been said, are numberless; although they rarely occur singly. Now, then, here marvel comes; and if it were not infirmity, it would be utter nonsense, in these besetments of fear. Aye, it may be true, that fear comes from ignorance; but here it springs from heredity and weakness.

Consider this tall, dignified-looking, and intelligent man, who, forsooth, is afraid of glass—nay, afraid of a piece of glass. Why? He could not explain: yet, fear is ever manifest. Here, anon, is one whose heart beats in excitement; whose face pales and flushes; who hesitates and trembles when he touches the door-knob, or a piece of metal. Another is in trepidation or fear from feeling hair, or the down of a peach. Another has eternal dread of wide space; another of narrow space; and still another is afraid of needles, or of pointed things. Similar vagary exists nowhere but in the brain. Thus does the brain, in nervous exhaustion, breed besetting ideas which tyrannize over our living purpose.

[TO BE CONTINUED.]

NEW YORK LETTER.

Dr. Ramon Guiteras read a paper on "Some Observations on Stricture of the Urethra," before the Medical Society of the County of New York, December 26th. He stated that strictures were formed in cases of chronic urethritis as follows: The urethral epithelium is thrown off, leaving the urethra denuded in certain places. This allows the escape of urine into the subepithelial layer. To prevent the urine from soaking into the tissues, an inflammatory exudate is excited, barriers of lymph are thrown out in the places where leakage takes place, thus forming plastic splints, which ultimately become organized tissue.

Subjective symptoms are the gleet discharge, twisted stream, frequency of urination, pain and tenesmus (if much bladder irritability or cystitis is present), retention of urine, incontinence. This latter symptom is caused by an overflow in cases of retention following obstruction, and is divided into two varieties: simple dribbling, due to the inability of the urethra to empty itself and the loss of urine in considerable quantities, as an overflow in cases of retention.

The objective symptoms are determined by means of metal sounds, bougies a boule, filiforms and olivary-tipped bougies. Otis has shown that the size of the urethra is in proportion to that of the body of the penis, and that a penis three inches in circumference should have a urethra of sufficiently large caliber to admit a thirty French sound—that is, thirty millimeters in circumference. The speaker's experience had been that a small meatus was most frequently found in those circumcised in infancy; if a meatus is found to be too small to admit sounds, it should be cut; although he never cuts a meatus above a thirty-two French, as he considered that sufficiently large for the man of to-day. Strictures are usually found either in the deep urethra (the bulbo-membranous portion), or in the first two and a half inches of the pendulous portion, as it is here that the urethra is more vascular, and gravity favors congestion there.

An enlarged prostate is at times mistaken for a stricture, and cases are frequently seen where physicians state that a patient has a stricture of the prostatic urethra, because a straight catheter or sound fails to enter the bladder on account of an enlarged middle lobe. A Coudé catheter, however, can usually be slipped over this impediment.

The complications may be chronic urethritis, false passages, rupture of the urethra (extravasation), fistulas, urethral fever, retention, cystitis, incontinence, stone, tuberculosis, and pyelonephritis.

In regard to the treatment of strictures of the urethra, he summed this up in a few words. Every stricture that is permeable and yielding, and can be dilated up to the normal size of the urethra, should be treated by this means. If strictures do not yield to dilatation, they should be cut. Dilatation should be accomplished by sounds, dilators, or bougies. The Oberlander dilator is considered the best.

Stricture operations are divided into two great classes: internal and external urethrotomy; besides which, we have perineal section, or an opening into the urethra through the perineum, where no guide can be passed through the strictured portion. Strictures of large caliber, over fifteen French, in the anterior urethra, which do not yield to dilatation, should be cut with

an Otis urethrometer. Anterior stricture of small caliber should be cut by the Maisonneuve. Deep strictures should be cut through the perineum (external urethrotomy).

Dr. Guiteras' method of treating false passages situated in the deep urethra has been as follows: After opening into the urethra by the perineal incision, he passes a director or guide from the meatus down and through the urethra into the pockets; through the perineal opening he feels the point of the instrument, and he cuts down upon the groove of the instrument from below. He has often opened them upon the end of a sound; but a grooved instrument is better, as the incision is more accurate and complete. He also has opened them with scissors from below, the point of one blade being in the pocket and the other in the perineal wound. One might think that by opening pockets in this way that the compressor urethra muscle would be cut through more than once and its function interfered with; this may occur, although the speaker had never heard of such an instance.

Fistulas complicating stricture usually occur behind them. Dilatation will occasionally cure them, for when the extra pressure, caused by the stricture, no longer exists, they are allowed to heal. For the radical cure the knife must be relied upon. If the fistula is seated in the perineum, a perineal urethrotomy should be performed, after which the fistula should be incised through into the peritoneal opening, and the false membrane lining it should be touched with a strong solution of carbolic acid. If there is danger of cutting an artery by this method, it can be treated by passing a needle into it connected with the negative pole of a galvanic battery; this will set up an adhesive inflammation and allow the walls to grow together. In some cases, where the fistula is situated right over the perineal urethra, the membrane lining the walls can be dissected away up to the urethra and the edges sutured together, thus entirely obliterating it.

A very rare book was presented to the New York Academy of Medicine by Lothar Voss, one of its honorary fellows. Dr. Voss was one of the first to introduce tracheotomy as a part of the systematic treatment of croup. The book treats of the lymph vessels, and is by Gaspar Asellii, who discovered these vessels in July, 1623. The book was printed in 1627, and was the first that gave colored anatomical plates. The book was reprinted twice, the third edition appearing in 1640, but the two later editions were decidedly inferior to the first. There is one copy in the University of Leipsic, and a defective copy in the library of the University of Breslau. The book given to the academy was one of the two copies now in existence, and was one of the first edition. The surgeon-general's library, Washington, D. C., contains a copy of the inferior third edition of 1640.

The following officers were elected to serve the New York Academy of Medicine: President, Dr. William H. Thompson; vice-president, Dr. Herman Knapp; trustee, Dr. Edward G. Janeway; committee on library, Dr. A. Caillé; committee on admissions, Dr. Reginald H. Sayre; committee for the trustees, Dr. W. F. Cushman.

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SURGICAL SUGGESTIONS.

Obstacles to Union in Fracture of the Patella.—1. Separation of fragments due to (*a*) retraction of quadriceps; (*b*) effused blood. 2. Tilting of fragments. 3. Rupture of expansions of vasti and capsule of joint. 4. Prolapse of prepatellar tissues into the breach. 5. Atrophy of quadriceps (*a*) from disuse; (*b*) arthritis; (*c*) contusion of muscle; (*d*) effused blood in joint. 6. Arthritis of joint. 7. Adhesions of patella.—*Treatment*, November.

Indications for Venesection.—Dr. Moritz Kacser (*Weiner klinische Rundschau*) gives the following indications for venesection:

1. In affections of the central nervous system, such as cerebral hyperæmia, apoplexia cerebri, inflammation of the cerebral membranes.
2. Kidney diseases in the stage of œdema and uræmia (Saccharjin and Hoffmann).
3. Cardiac disease of valvular origin. In great disturbances of circulation in which the venous system is overtaxed and the arterial pressure raised (Leibermeister).
4. In pneumonias with an exceptionally severe onset, absolutely in the first stage.
5. In various stages of chlorosis (Dyes, Wilhelmj).

Treatment of Gonorrhœa.—Dr. W. P. Carr (*The National Medical Review*, November, 1898), in the course of an article on this subject, says:

"Soaking the penis several times a day for ten or fifteen minutes in water as hot as can be borne, as recommended by Milton, has a strong tendency to reduce the inflammation and shorten the attack, and also relieves pain. This may be done simply by using a cup of hot water and adding to it from time to time hotter water from a small pitcher. The gonococcus is said to be killed by a temperature of 105° F., and it is quite possible to raise the temperature of the whole pendulous portion of the penis to that degree.

"Dr. W. F. R. Phillips informs me of a case where the inflammation was confined to the outer portion of the urethra, which he believes to have been sterilized and cured in this way."

Injection of Arsenious Acid Into Malignant Growths.—Dr. John A. Wyeth, in a paper read before the New York County Medical Association, reported the case of a ranchman, thirty-seven years of age, who had been in excellent physical condition up to July, 1897, when he had been thrown from a broncho, injuring the left hip. He was in bed for three weeks, and on crutches for six weeks more. In August of the same year he began to suffer from nausea and vomiting, and experienced dull pain in the right iliac fossa. On incision for a supposed appendicitis, in December, 1897, malignant disease was discovered. On examination by Dr. Wyeth, a tumor was found beneath the line of this previous incision, and projecting from the center of the scar was a hard, red nodule, apparently a sarcoma. At the man's urgent request, an exploratory operation was due, and the scar tissue in the sarcomatous growth, together with a large sarcomatous mass involving the anterior and posterior wall, was removed with a curette. The wound was packed, and the patient recovered without serious symptoms.

Two weeks later treatment was begun by the injection of five to fifteen drops of Fowler's solution of arsenic into the edges of this extensive new-growth. Strange to say, the tumor had materially decreased in size, and at various times portions had sloughed away. The patient's general condition had markedly improved. The sarcoma was attached to the posterior iliac vein. Dr. Wyeth said that ten or twelve years ago he had first made use of injections of arsenious acid in a case of sarcoma of the abdominal wall. It was followed by severe inflammatory reaction, but the man had remained well ever since. He knew of ten or more cases of sarcoma that had been cured by a very violent streptococcus inflammation. In these cases the diagnosis had been established beyond question by a number of microscopists, working independently of one another.—*Abstracted from Medical Record.*

Treatment of Cutaneous Carcinoma.—Gottheil, in his excellent little book on "The Treatment of Skin Cancers," just published by the International Journal of Surgery Company, New York, formulates this résumé of the treatment of cutaneous carcinoma:

1. Cutaneous carcinoma is preferably treated, in the great majority of cases, by caustics, which give the best results, with the least liability to return.

2. Excision is to be reserved for those exceptional cases in which, from location or extent, the caustic treatment is inapplicable.

3. Arsenious acid is the safest, surest and best of caustics at our disposal, and seems to have a specific, selective action upon the cells of the new growth. Pyrogallol may be employed in the most superficial cases.

4. In cases involving the skin alone, arsenic should be used, after curetting, in the form of Marsden's paste.

5. Where the mucosæ are also or solely affected, arsenic can be used by the method of interstitial injection of Hue, or as a paint, as recommended by Czerny and Truner. The galvano-caustic paint, the caustic potash stick, and the chloride of zinc, may also be employed.

6. Cutaneous carcinoma, early and vigorously treated by the caustic method is a very manageable disease, and of good prognosis.

Intussusception in Children.—The first attempt at reduction should be thorough and final. This is most likely to be successful if practiced upon the thoroughly anæsthetized child. The method of choice is the slow injection of normal saline solution by gravity, at a temperature of about 102 degrees F., and under a pressure of at first four feet—not greater than eight feet—after ten or fifteen minutes. Inversion and gentle massage aid in accomplishing reduction. Reduction by injection should not be attempted in hyperacute cases which have lasted more than twenty-four hours, nor in acute cases that have lasted twice this time. Immediate operation is safer for such cases.

DR. EDWARD MARTIN.

Brain Tumors Complicated With Choked Disc.—Dr. William C. Krauss (*Phila. Med. Journal*) made observations in one hundred cases of brain tumors complicated with choked disc (optic neuritis), and arrived at the following conclusions:

1. Optic neuritis is present in about ninety per cent. of all cases of brain tumors.

2. It is more often present in cerebral than cerebellar cases.
3. The location of the tumor exerts little influence over the appearance of the papillitis.
4. The size and nature of the tumor exert but little influence over the production of the papillitis.
5. Tumors of slow growth are less liable to be accompanied with optic neuritis than those of rapid growth.
6. It is probable that unilateral choked disc is indicative of disease in the hemisphere corresponding to the eye involved.
7. It is doubtful if increased intra-cranial pressure is solely and alone responsible for the production of an optic neuritis in cases of brain tumor.

Fractures of the Skull.—Dr. Pope (*International Journal of Surgery*, April) sums up his experience on this subject as follows: 1. Operate in all cases of fracture of the skull, basilar or compound, and preferably in simple fractures. 2. Expectant treatment is dangerous, permitting injury to the nerve structures. 3. Danger does not exist in fracture *per se*, but in subsequent injury to the nerve elements and tissues. 4. Failure to trephine and immediately remove the existing pressure, depression, hemorrhage, inflammation, or septic infection, may result in the development of focal epilepsy and other cerebral diseases. 5. Little or no danger results from the operation. 6. These rules are doubly applicable to fractures of the base, owing to the danger to vital structures lying there.—*Medical Record*.

The Gynecological Aspect of Bicycling.—Dr. J. W. Ballantyne, in a recent number of the *International Medical Journal*, has made a most complete digest of the consensus of opinion on this subject. He divides the indications for bicycling into two groups; those in which it is recommended, and those in which it may be permitted.

It is to be recommended in:

1. Uterine congestions.
2. Amenorrhœa, in relation with arrested development of uterus or ovaries, with anæmia, chloro-anæmia, digestive disturbances, neurasthenia, chronic diseases, physical or moral shocks, chills, falls, etc.
3. Dysmenorrhœa of the nervous type.
4. Dysmenorrhœa with congestion of the uterus and ovaries.
5. Vicarious menstruation.
6. Fibroid tumors, after the termination of the hemorrhagic period.

It is to be permitted in:

1. Mechanical dysmenorrhœa, congenital or acquired, and in membranous dysmenorrhœa.
2. Uterine displacements (prolapse, flexions and version).
3. Chronic metritis, with *post-partum* or *post-abortion* subinvolution, which is no longer painful and which is in process of cure, but with moderation.
4. Leucorrhœa in anæmic, chloro-anæmic, and delicate women.

Gonocystitis.—Dr. W. Ayers (*New York Medical Journal*), writes on this topic, drawing the following conclusions:

1. That gonocystitis occurs with about the same frequency as epididymitis; the acute form much more rarely than acute epididymitis; the chronic form much more frequently than chronic epididymitis.

2. That, in his opinion, masturbation or sexual excesses can not cause it, unless they have first produced a stricture in or near the bulb.

3. That stripping the vesicle is the only treatment that is of any service in chronic non-tuberculous and non-syphilitic gonocystitis.

4. That the vesicle can be reached and emptied, in spite of the fact that it seems impossible from measurements made on the dissecting table.

5. That we have by this method a treatment whereby we are able to cure a large number of the so-called "incurable gleet."

Indications for Operation for Intestinal Obstructions.—The various conditions for which operations are usually demanded for the relief of those suffering from intestinal obstruction are:

1. Strangulation of the gut by bands, extensive adhesions or apertures.

2. Volvulus.

3. Intussusception.

4. Obstructions due to neoplasms.

5. Compression by tumors external to the gut.

6. Obstruction from foreign bodies, such as gall-stones and enteroliths.

7. Obstruction caused by fecal masses.

FREDERICK HOLME WIGGIN.

The Porro Operation Versus Total Hysterectomy.—1. Total hysterectomy should be performed in preference to supra vaginal hysterectomy with extraperitoneal treatment of the pedicle.

2. The operation should never be performed unless absolute indications are present.

3. The uterus can be rapidly removed by applying clamps on either side and working as detailed in the technique; the difference in time consumed between a "Porro" and an ideal total hysterectomy is not more than a few minutes, because the elastic ligature is dispensed with, and the proper attachment of the cervix in the lower angle of the wound nearly equals the time consumed in ligating the vessels and suturing of the peritoneum after removal of the uterus.

4. When the child is dead *in utero*, the organ should not be opened for the purpose of first delivering it, but the uterus should be removed *in toto* unopened.

The advantages of the total hysterectomy over the Porro operation are:

1. Less danger of infection.

2. Practically no danger from secondary hemorrhage.

3. Less danger of intestinal obstruction.

4. A shorter period of convalescence.

5. Less danger of ventral hernia.

Disadvantages: It has none which will not be shown to be void by a practical test.

H. J. BOLDT.

Ranula.—The old way of treating these cysts was by passing a seton through them; and some surgeons still adhere to this plan. It is better to cut a piece out of the cyst-wall by means of scissors, and then destroy the remainder of the cyst by the application of silver nitrate, or the edges of the cyst-wall can be kept back by stitches.

J. W. McDONALD.

MEDICAL NOTES.

Experimental Researches on the Effects of Different Anæsthetics.—

Ether causes contraction of the renal arterioles, with sequential injury to the renal secreting cells; the kidney shrinks and the secretions gradually diminish till suppression occurs. The general blood-pressure is raised and maintained. Ether, then, is contra-indicated in renal disease, and particularly when albuminuria exists with a tendency to pulmonary œdema.

Chloroform has no effect on the kidney, but has a direct depressing effect on the circulation.

The A. C. E. mixture, if inhaled openly, has the effect of chloroform; if given by a more or less closed method, it combines the depressing effect of chloroform on the circulation with the renal lesions caused by ether.—

DRS. W. H. THOMSON AND KEMP, *Medical Record*, September, 1898.

Should We Drink at Our Meals.—Most persons feel the necessity of adding more fluid to their meals by drinking either ordinary water, carbonated waters, or alcoholic beverages. The more one eats, generally the more one drinks; and the greatest eaters are the greatest drinkers. If drink be prohibited, the amount eaten is less; indeed, on the above very greatly depends the secret of the "Schweinger cure" for obesity. It is a well-known fact that if the appetite is weak and the mind and nerves somewhat relaxed, a drink of water will excite the appetite and stimulate the brain and nerves; and this is due directly to the fluid and not to the alcohol contained, for we find these same facts the same in abstainers.—*Dietetic and Hygienic Gazette*.

Treatment of Cystitis.—(1) *Cannabis indica*, in full physiological doses, is the best remedy we have for the relief of the distressful symptoms of cystitis; the magical change in the character of the urine under its use indicates probable antiseptic properties dependent upon the resin which it contains.

(2) Antipyrine is an efficient anesthetic and antiseptic, is safe with ordinary caution, and compatible with nitrate of silver when used as an anesthetic before the application of solutions of the latter drug.

(3) Nitrate of silver is one of the best remedies for local use in chronic cases.

(4) Ichthyol is the best all-round antiseptic for local use.—DR. LOUIS MADDOCK, *The Pacific Record of Medicine and Surgery*, November 15, page 112.

An Indian Doctor's Advertisement.—The following account will give an idea of the manner in which the pious Hindoo or Mohammedan, as the case may be, who has become the proud possessor of a British qualification, makes use of the same when he returns to his native heath. This copy of a placard, which has been put up on all the principal roads and at all the public places in Lucknow, was printed in the *Indian Medical Gazette*:

"Dr. M. S. Varis, M. B., C. M., Edin., consulting physician and surgeon. Consultation, all hours free, 9–11 A. M. Share Darvoza.

"Notice.—Dr. Sayad Mahomed Varis, surgeon. 'Good news to thee, O heart; a Jesus-like man has come.' Be it known to the seekers after

bodily health and to those in the clutches of deadly diseases that the Aristotle of the times and Galen of the universe, Dr. Sayad Mahomed Varis, M. B., C. M., after learning the art of medicine and practicing it in Great Britain, has come to this town (Lucknow). He studied for six or seven years in modern Athens, viz., Edinburgh, which is the capital of Scotland, and he obtained the diploma of a physician and surgeon; and there for three years he established himself in practice and performed Christ-like miracles. It is our good fortune that he has established himself here. It is hoped that whosoever will apply to him for treatment will fill his pocket with pearls of health. He lives close to Kaisar Bag, near Share Darvoza, opposite the telegraph office, in house No. 1. Patients can consult him all day."—*Exchange*.

Phenic Acid in Severe Erysipelas.—Fedele reports a case of erysipelas of the face and scalp, with fever at 41 degrees C., delirium, and other alarming symptoms, which resisted the usual treatment, but yielded to hypodermic injections of phenic acid: aq. dist. 100 gm., alcohol 4 gm., phenic acid 2 gm. A hundred and ten injections were required during the eight days before complete cure, a total of 220 centigrams of phenic acid. Luciani ascribes this tolerance to the combination of the phenol with sulphuric acid, producing phenol sulphuric ether, which the organism can tolerate to a much greater extent. Ascoli suggests that possibly in an acute infection the organism has an enlarged protective mechanism at its disposal that preserves as well against acid intoxication.—*Gazzetta degli Osp.*, October 23.

Gastric Form of Epilepsy.—*The British Medical Journal* states that Fichaux has collected a certain number of cases showing the existence of a form of epileptic seizure which manifests itself by attacks of gastralgia. This form of the disease has attracted very little notice, Trousseau and Féré being almost the only writers who allude to it. To quote one case in illustration: A girl, aged twenty-two, under the writer's care, apparently in good health, will suddenly cry out with severe pain in the epigastrium, this not being preceded by any other symptom. If standing up, she has time to sit down; she becomes extremely pale, with a slight loss of consciousness lasting for two or three seconds, during which time she is unable to perceive any sensation. On returning to consciousness there is a feeling of fatigue and headache, which lasts an hour or so. Under the influence of bromide these attacks become very much less frequent. In all the cases collected by the author there was this same sudden character in the onset. In the absence of every other symptom, the apparently perfect health of the patient between the attacks is strongly suggestive of their epileptic nature.

Ergot in Chronic Malaria.—A. Jacobi (*Medical News*) says that in connection with malaria there are two organs which have to be considered in the administration of medicines: the blood and the spleen; the former because it contains the sporozoa, the latter because of its sponge-like mass in which it harbors the infected blood and serves as a receptacle of dangers. It appears that a direct effect on the blood or on the plasmodia is

not required for a cure, but that gradually the restoration of the spleen to a fairly normal size, forcing the stagnating blood into a normal circulation with progressive elimination of the plasmodia, is sufficient to open the gate to recovery. He gives ergot in the form of fluid extract (Squibb's), one teaspoonful in whisky and water four times a day. He gives details of several illustrative cases, and formulates the following conclusions: (1) There are cases of chronic intermittent fevers with large tumefaction of the spleen that, after having resisted the action of quinine, arsenic, methylene blue, eucalyptus, and piperine, are benefited by ergot. (2) When enlargement of the spleen is not old and not firmly established, the contracting effect of ergot is noticed within a reasonable time. (3) The attacks will disappear before the diminution in the size of the spleen is very marked. (4) Though temperatures, after the employment of ergot, remain irregular, and now and then somewhat elevated, rigors, as a rule, are not noticed with this elevation. (5) Plasmodia do not seem to disappear from the blood so rapidly as they do after quinine, when the latter is effective. But even while some are still present, the attacks being more or less under control, the patient will feel better. (6) Complicating local pain requires additional treatment with ice, or cold douches, or heat; chronic hyperplasia calls for iodide of potassium or iodide of iron. Digestive disorders may indicate, as they often do when quinine is expected to act, before the employment of ergot, an emetic, or a purgative, or stomachics. (7) An experience extending over forty years, in which he has used ergot in many instances, seems to Jacobi to justify in asserting at least this much: that there are many cases of chronic malaria, apparently intractable, that will get well with ergot. (8) There are cases occasionally in which the return of elevations of temperature after the successful use of ergot makes the combination of ergot and quinine, or ergot and arsenic, advisable, though quinine and arsenic had not been successful previously. (9) Ergot, like quinine, probably by its sudden contracting effect on the spleen, and by the forcing of large quantities of plasmodia-laden blood into the circulation, is, in chronic malaria, when hydræmia and spleen tumor are excessive, capable of bringing on the very first attack of rigors and fever. (10) Recent cases of malaria have got better, or were improved under the extensive use of ergot, but many resisted a long time; that is why acute cases should rather be treated with quinine.

Syphilis vel Gonorrhœa.—While local suppurative syphilitic disease is recognized in the male, the same affection in women does not seem to be appreciated. Anything which is not obviously syphilitic in women is usually attributed to gonorrhœa. I have no hesitation in bearing testimony to the efficacy of mercurial treatment in cases of urethritis in the male and leucorrhœa in the female, which have resisted the usual gonorrhœal remedies.—DR. JOHN A. SHAW-MACKENZIE, *On Maternal Syphilis*.

Nervous Headache.—

R	Blue methylene (pure).....	grain ij.
	Nutmeg.....	grain ij.
Sig.	—Two or three daily, according to the case.	

LEWY.

DR. WELLINGTON ADAMS.



Dr. Wellington Adams, a department editor of this publication, died in St. Louis, December 28, 1898.

Dr. Adams was born June 21, 1856, at Brooklyn, N. Y., and when a child was taken to Washington, D. C., by his widowed mother. For several years he was a page in the Senate, and often declared that he first grew ambitious by observing such men as Conklin, Grant and the other men of that time, who were seen about the national capitol. He attended a night school while in Washington, and later was sent to the Georgetown College, where he studied medicine. He remained in Washington to practice medicine a year, and then went to Colorado Springs. This was at a time when electrical appliances were just being per-

fected, and he took the keenest interest in them. He had developed into a specialist on the ear and nose, and got up several electric instruments of inestimable value to surgeons. His experiments in this direction led him to study electricity seriously, and it was then that his electric motor idea was given birth. He did not neglect his profession, however, and occupied a chair in a Denver medical college, and was made the secretary of the Colorado State Medical Society. From Colorado he went to Chicago, remained there two years, and in 1883 came to St. Louis.

Dr. Adams was known to St. Louisans better as an inventor than as a physician. He was the inventor of the present method of mounting a motor on a single axle in the construction of electric street cars. Later he began to foster the Chicago-St. Louis Electric Railway. The railway was to revolutionize traffic. A road-bed built on an air line between the two cities, the length of the State of Illinois, was to carry electric cars, which, by their peculiar construction, would make the distance between the two cities in a little over two hours. It was to cost about \$8,000,000, and half of that sum was subscribed when the panic of 1893 came and money tightened and ruined the prospects of the ambitious scheme. Those unacquainted with Dr. Adams might have called him a dreamer, but those who did know him never considered him as such. He was of that class of inventors who, in spite of their boldness, are exceedingly practical in applying their ideas and working out the details of them.

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The Practice of Obstetrics. By American authors. Edited by CHARLES JEWETT, M. D., Professor of Obstetrics in Long Island College Hospital, Brooklyn, N. Y. In one handsome octavo volume of 763 pages, with 441 engravings in colors and black, and 22 full-page colored plates. Cloth, net, \$5.00; leather, net, \$6.00. Lea Brothers & Co., Publishers, Philadelphia and New York.

This new work covers the whole subject of obstetrics and cognate branches, as understood and practiced by the leading American authorities to-day. The plan upon which the editor has arranged the volume is simple, rational and intelligible, and his assignment of chapters shows his critical knowledge of the attainments of each man, and his ability to secure the best talent. The leading colleges are well represented in the list of authors, which bespeaks immediate wide acceptance of the book in the student world; but it is, nevertheless, equally a guide for the general physician and a reference book for the specialist. The subject being peculiarly one of practice, has been treated with that end always in view. The especial importance of illustrations in obstetric teaching has led to the inclusion of a singularly rich series of engravings and plates in black and color. The size has been kept well within the bounds of convenience.

Diseases of the Eye. By G. E. DE SCHWEINITZ, A. M., M. D. Third edition. Octavo, pp. 696. Price, cloth, \$4.00; sheep, \$5.00. Philadelphia: W. B. Saunders, 925 Walnut street. 1899.

This edition of De Schweinitz brings the work up to date in every respect. Numerous additions have been made to the text in this edition, and the whole book has been carefully revised. No doubt, it will continue to remain a favorite with students and practitioners.

A Text-Book of Obstetrics. By BARTON COOKE HIRST, M. D. Octavo, pp. 846. Price: In cloth, \$5.00; in sheep, \$6.00. Philadelphia: W. B. Saunders, 925 Walnut street. 1898.

Of this book it is sufficient to say that it is one of the most carefully written and magnificently illustrated treatises on obstetrics ever produced. The medical student will be charmed by its logical arrangement, and the practitioner will find it a safe and accessible guide.

THERAPEUTICS.

Lactate of Strontium in Acute Nephritis.—Dr. J. M. Da Costa writes: "I give pilocarpine, hypodermically, every two hours, until I secure free action from the skin. If preferred, the pilocarpine may be given by the mouth; but I prefer, in these cases, to give the first dose hypodermically. In addition to this, I give the lactate of strontium, fifteen grains at a dose, four times daily. This drug is one of the most efficient, non-irritating diuretics that we possess; in addition, I am a believer in dry cupping over the kidneys, and in the use of hot vapor baths.

"There are three drugs in acute nephritis which, to my mind, stand out with considerable sharpness above all others for efficiency—pilocarpine, digitalis, and strontium. I am particularly pleased with the value of strontium, which I consider indispensable in many of these cases."

Formol for Fetid Sweating of the Feet.—According to Dr. Frey (Schwetz), bromidrosis of the feet may be successfully combated by washing the plantar surface and interdigital spaces once or twice a day with a two per cent. formol solution. The offensive odor is said to disappear within a few days. The same solution should also be utilized for washing the shoes, more particularly the inner surface of the soles, care being taken to dry these well after each washing. Dr. Frey has obtained excellent results from this simple treatment in cases of fetid sweating of the feet, in which no benefit has been derived from the use of salicylic acid powder or applications of chromic acid.

The Use of Iron Subcutaneously.—Birgelen, of Penzoldt's clinic (*Munch. med. Woch.*), says that there are a great number of cases where iron is indicated, but where it is impossible to give it by the mouth. Subcutaneous injections were used by the author in four cases—a ten per cent. watery solution of ferrum citricum oxydatum, but later a similar solution of ferrum citricum ammoniatum. Only ordinary precautions were used, and the injections were made in the arm. The solutions were sterilized before being used, and none older than ten days were made use of. Slight signs of local irritation appeared, especially when the first-named salt was used. In the first case the good effects were clearly shown by this method of treatment; in the second the improvement was not so marked; the third failed entirely to respond to the treatment; while the fourth had to be stopped on account of the formation of abscesses. The writer thinks that the value of the treatment, despite the failure encountered, cannot be denied, and that only when treatment by mouth fails should it be resorted to.—*Exchange*.

Egg Albumen as a Remedy in Skin Diseases.—S. Lewith (*Archiv f. Dermatologie u. Syphilis*) has made trial of white of egg in cases of much irritation of the skin and moderate exudation. It is applied as follows: The hands are thoroughly washed, an egg is opened, and the white is separated from the yolk, and is well stirred up with the finger in a little glass. The affected part is then smeared by means of the finger with a thin layer. It forms a delicate friable membrane, which covers the tissues beneath, and

exerts on them a slight pressure. The itchiness is soon diminished or removed, and a pleasant coolness is felt. The treatment certainly has the merit of cheapness, for one egg is almost sufficient for an application to the skin of the whole body.—*Treatment.*

Nuclein in Surgery.—Dr. C. E. Ide, in an extended article in the *New York Medical Journal*, claims that nuclein has a great range of usefulness in surgery. He summarizes as follows: (1) Nuclein is an agent which will save us the performance of some surgical operations which have been considered necessary in the past; it is an agent which will work to the building up of "conservative surgery." (2) It will fortify the whole system and render its functions normal and active, and put our patient in the best possible condition for operative procedure, and afterward for a speedy and successful convalescence. (3) It builds up the blood, opposes germ life and its products, and saves us the necessity of administering the many remedies which we would rather let alone, because their after-effect is apt to be bad. (4) It acts principally through the blood and nervous system.

Baldness After Use of Thallium Acetate.—The *Journal* has mentioned the case of sudden alopecia in a woman forty-seven years of age, resulting from taking nine doses of three centigrams each of thallium acetate, recommended for the night-sweats of phthisis. Paul Berthod draws a moral from this case and preaches greater caution in the use of new remedies, "in these days of lack of confidence in the profession." A third of the patient's scalp is completely bare, and although a few hairs have sprouted during the six weeks since, the majority seem definitely destroyed, with atrophied bulbs.—*Annales de Derm.*, November.

Digitalis in Heart Disease.—Research would seem to prove that the prolonged use of digitalis is capable of producing cardiac hypertrophy in the normal heart, and if this is the case, it is fair to assume that when the drug is given to a man suffering with valvular disease with deficient compensation, it must aid materially in inducing compensatory hypertrophy, in addition to any immediate stimulant action which it may exercise in the circulatory apparatus.—*Hare.*

For Enlarged Glands, where surgical interference is inadvisable, use the following ointment night and morning:

R	Ichthyol.....	3 j
	Unguent. hydrargyri.....	
	Unguent. belladonnæ.....	aa 3 j
	Nuguent. petrolei.....	3 vi
M.		—Keen.

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THE INFLUENCE OF VOCATION UPON TELEGRAPH OPERATORS.

The influence of vocation upon health is an unusually interesting chapter in the history of disease. None are more so than with telegraph operators. According to Mr. Hull, president of the Railway Telegraphers' Union, a surprising mortality exists among them. The averaged death rate from tuberculosis with the general mass of men is 13.8; among telegraph operators it is 46.6, exceeding by 13.5 the mortality among moulders. Other affections of the respiratory organs stand in this relation: General, 3.5; telegraph operators, 18.4, between fifteen and twenty-five years; 23.1 between twenty-five and thirty-five years, instead of 4.9; and to 12 instead of 5.3. There is no denying the fact that it is a vocation fraught with danger; continuous nerve tension, mental concentration, an exhausting fixity of attention, congesting the operator's brain, engendering lung diseases and heart complications. We have seen more forms of insanity, brain strain, melancholia, paralytic dementia; more varied forms of paralysis, local and general; more severe neurasthenic conditions, among telegraph operators than with all the rest of railway employes combined. This can be shown from the tabulated statements of over 300,000 sick employes. Hence, we view the telegrapher's vocation as the most dangerous in railway service. While they are freed from accident, as in the transportation department, still there is proportionately greater mortality among them. We quote from the *New York Herald* the following:

"Every one knows that the telegraphist reads better with his ears than with his eyes. He carries out an essentially mental operation by using the nerves of hearing. This faculty is consequently highly developed in his case. In the ordinary work of reading twenty words a

minute the telegraph operator must distinguish one hundred and fifty alternate strokes or intervals, and when there is a rush of work this figure can go as high as four hundred and fifty. There is also the work of transforming the sounds into visible symbols, or writing, which implies another mental process. And whereas the normal amount of varied sensory impulses per minute is one hundred and twenty, the telegraphist has to accomplish one hundred and fifty to four hundred and fifty. Without taking extreme cases into consideration, it may be said that the sense of hearing in a telegraph operator is two and a half times more powerful than in an ordinary individual. Again, in telegraphy the continuity of the nervous stimulation, the monotony of sounds, and the fixity of attention are further causes of exhaustion. It is found also that during forced work the telegraphist's breathing is affected, his heart's action precipitated, and his brain congested."

We are firm believers that unsanitary surroundings of the average telegraph operator is responsible for his high mortality in tuberculosis. They are put in little better than pig pens generally, or crowded in narrow, filthy, ill-ventilated spaces. If the good Lord, or good common sense, would make a competent and empowered sanitary inspector, next to faulty water-closets the average office of a railway or other telegraph operator would be condemned. Sanitation, wise sanitation, would make many vocations lose much of their horrors. Millions are wasted annually to let legislators make and unmake laws, millions and millions on politics, and not a cent to save the lives of commerce's keen and intense aiders.

AN INTERESTING REPORT ON ANÆSTHESIA.

We have recently received an interesting report upon this subject from Dr. A. J. Ochsner, of Augustana Hospital, Chicago. The cases presented were operated upon by Dr. Ochsner during the last fourteen months, being the third thousand in a continuous series of observation. The method of administration is careful and praiseworthy. The day before the operation the patient is subjected to a thorough examination, noting the condition of the organs. A warm bath is given to stimulate elimination, the alimentary canal cleared, and the next morning an enema is still further employed. He believes the Esmarch mask is superior to all other means of administration. No drugs are used. The lower jaw is hooked over the upper; no gags are needed. The head at the time of anæsthetizing is placed on a level with the body; the pupillary reflexes are solely used, and believed to be an infallible guide; for a contracted, immovable pupil teaches us we have surgical narcosis. His conclusions concerning the administration and results of chloroform are certainly well timed and sensible, and confirm the following conclusions: Difficulties are rare when chloroform is so administered; a dilated, immovable pupil is the first sign of danger; the Esmarch mask is superior to all others; and that anæsthesia should be more thoroughly taught. For the past two years the editor of this journal has pursued the essential same method as used by Dr. Ochsner, excepting that we have not used anything but chloroform. We are ardent believers in the great force of timely suggestion in the administration of chloroform. The patient has explained to him how the anæsthetic

will act, and when administered suggestion of the Esmarch inhaler, attention to pupil and jaws are imperative. A constant stream of pleasant and placating suggestion is kept up by the anæsthetist until unconsciousness is reached. Thus, in illustration, the anæsthetist says to the patient: "Now, if you take this right, there will be no struggle and before you know you will be asleep." "Do you notice what a sweet taste the chloroform has?" "Now, then, breathe slowly and regularly; if this chokes you, push it (the mask) away." "Do you feel that wavy, tremulous sensation—peculiar, is it not?" "You begin to feel stimulated?" "Why, you take it splendidly; just as easily as anybody I ever saw!" "That's right! You're doing splendidly!" "Well! Well! How nicely you take it! Why, it's like a dream"—and so on. When subconsciousness is reached, the anæsthetist says: "Well, Dr. So-and-So, it couldn't be better! Why, he fell asleep like a babe!" We maintain that every word of the anæsthetist counts.

Suggestion in our hands has been most successful; merciful and placating, it soothes and lulls every suspicion and robs the brain of mental strain. Dr. Ochsner mentions that in the first five hundred cases Squibb's chloroform and ether were used; in the last five hundred, Mallinckrodt's. For the past year, in the St. Louis Hospital, Missouri Pacific Railway, we have used nothing else but Mallinckrodt's, and have been as successful as with Squibb's. This came from the reason that at times Squibb's could not be obtained; but, finding the Mallinckrodt's equally as reliable, we have been relieved of a dread, for we only had faith, at one time, in Squibb's; now we are satisfied that we have equally as reliable an agent in Mallinckrodt's. Both of these products are certainly competent to stand the highest tests for safety and efficiency.

A MEDICAL LIBRARY FOR ST. LOUIS.

Several years ago, in an editorial on "The Needs of Medical St. Louis," the writer called attention to the absence of a medical library in this great city. The agitation begun at that time has at last yielded fruit. As we go to press, work is being done toward the formation of "The St. Louis Medical Library Association," which shall equip and maintain a medical library. It is proposed that any person may become a member. Members shall be designated as life, active, associate, and honorary. Life members shall be persons paying one hundred (or more) dollars; active members shall pay twenty-five dollars, which shall pay the associate fee for one year; associate members shall pay five dollars annually. The management shall be in the hands of a board of trustees, who shall be elected from the life and active members.

Up to date the preliminary steps have been taken chiefly by Doctors Pollock, Outten, Duncan, Ravold, Alt, Lutz, Gregory, Kieffer, and Ball.

TELEPHONES AS GERM CONVEYORS.

Perhaps there is no doubt that the telephones, through their receivers, do contain germs; but to what extent they are competent to produce disease has yet to be determined. The recent outbreak of the grip has accentuated the possibility of this source of infection. Recently Dr. E. John Kauffman, of New York, has said more cases of grip "have been coughed,

spluttered and sneezed into the telephone, to be contracted by the next user of the instrument, than have proceeded from all other sources combined." We believe the grip germ is certainly as abundant in the air as it is around the receiver of a telephone. New ideas always dazzle the observer with their possibilities, and their authors proceed enthusiastically to build an extensive and ponderous causative factor. In this instance Dr. Kauffman seems to think this the *causa sine qua non* of the recent grip epidemic. Still, we believe climatic and other conditions are infinitely more ponderous as a factor than the receivers of telephones. In the St. Louis Hospital, Missouri Pacific Railway, for many days the average daily treatment of grip patients was from 115 to 185, and we personally know that not one in seventy-five of these cases had used the telephone in a year, and a great bulk scarcely ever in their lives. The doctor says: "I visited several of the biggest and finest hotels, and also a number of the public telephone exchanges. I carried with me some wire and clean cotton. I mounted the cotton on a piece of wire and rubbed it around the inside of the mouth-piece of the telephone receiver" * * * * "and the result was that I found a multitude of the grip bacilli" (in the cotton used to scrape the receivers). The doctor continuing said: "There are 45,000 telephones at least in New York, and I figure that there have been from 35,000 to 40,000 cases of grip." It would certainly be a common-sense sanitary measure to wash and clean receivers on telephones, and doubtless many will eagerly do this when the necessity is indicated; but we do not believe that telephone receivers are nearly so infectious as stated.

MILLIONS TO CURE MILLIONS—BUT 'TIS NOT HOMŒOPATHY.

In these days of vigorous progress surprises are constant, new ideas spring up, bringing with them vastness of conception and fields of possibilities which thrill and amuse. When inventors can, by mere description of various devices, well into individuals teeming with a seeming ponderous imagination, it but serves to illustrate that many of the subjects thus considered are in the domain of hitherto unknown phases of progress and thought. Nikola Tesla certainly must be a man of wondrous imagination; his surprises are never petty, but seem as broad and expansive as the full, free face of nature. The inherent boldness of his conceptions at times places him almost in the role of an extreme sensationalist. In a paper recently read in New York City, Nikola Tesla proposed to destroy micro-organisms of all diseases by applying millions of volts of electricity to persons afflicted with multitudinous bacteric forms. In his exhaustive paper read before the Electro-Therapeutic Society he outlined his plan in accomplishing the destruction of the bacilli of consumption, etc. This tremendous current, and seemingly incomprehensible force, Mr. Tesla will send through the body of the afflicted individual in such a manner that the vital organs will be free from harmful effects and the disease-producing germs will be drawn from the system. It is asserted that he proposes to send this current, not through the body, as is the case with persons executed by electricity, but will run it along the surface. It had been supposed that Tesla's feat in generating a current of fifty thousand volts was the limit; but now he proposes in the cure of disease

to use millions of volts, and which he claims in the manner to be applied, not only not to harm the patient, but to remove from the system all the bacilli there and renew the afflicted individual with his wonted healthful store of energy. At this moment there is lack of details as to the manner in which Mr. Tesla proposes to apply static electricity in a curative manner. Mr. Tesla said: "I have no time to go into the matter in detail now beyond telling you that it is my plan to apply several millions of volts of electricity to the surface of the body and draw out the germs. No, death would not follow the use of a current so tremendous. The patient would not be injured, but would receive a new store of energy." The manner of its application remains a secret with Mr. Tesla. Dr. F. S. Kolle, who is in charge of the electro-therapeutic department of the Electrical Engineer Institute, says concerning this subject:

"I do not know how the million-volt current is to be produced in the first place. I know of no apparatus which will produce more than a 50,000 volt current. Tesla has produced that—an oscillatory current of high frequency.

"Any man can take a million volts direct with his body—if it can be produced—and not be injured by it, but benefited instead. The reason that 50,000 volts did not kill Tesla when he took that strength of current is that the cells in his body did not have time to contract in response to it. Much less would have killed him instantly. Much more is all the safer.

"It is just such a case as that of a bullet going through a window pane. At high speed it will cut a clean hole and will not crack the glass. The particles have not time to spread during the period of impact.

"As to the benefit of so great a current, we say it as a proverb that electricity is life, and the scientific meaning of that saying is that it oxidizes the tissue.

"I have long held the theory, though I have never made it public before, that the renewal of energy and vitality which follows eating long before the three or four hours necessary for digestion have passed is directly due to the production of electric force generated by the action of the stomach acids on the chemicals in the food.

"The exterior application of an oscillatory current of high frequency would have a similar effect; greater as the current went higher, but whether proportionately greater I cannot say. So, therefore, the use of such a current would restore vitality and be an ally and aid to the food taken into the stomach. It could never take the place of food, of course, for, while it could supply oxygen, it could not give the carbohydrates necessary to existence. Therefore, its use would not diminish the amount of food needed. The person using it, however, would have a greater ability to work and a more brilliant intellectuality.

"Would the million-volt current, if it could be produced, kill the bacilli of disease in the body? I do not know. I do not know whether a 50,000-volt current can do it. I am not aware that any experiments of that kind have been made. But oxidization does kill bacilli of all kinds; and as those currents produce it, there is good reason to believe that part of the claim for this discovery. What has not been heretofore known is how much oxidization of tissue will kill bacilli therein. Perhaps that has now been found out."

MARRIAGE OF OVARITOMIZED PATIENTS.

It has been suggested that marriage of women who have had both ovaries removed is of the nature of a fraud, unless the prospective husband has been informed of the mutilated condition of the woman of his choice; and it has been claimed that the absence of the organs of reproduction would probably be considered just ground for the annulment of such marriage.

This question has recently been judicially considered by the Supreme Court of New York, with a curious result. The court, apparently, dissents from the view that inability to bear children, artificially induced, forms a disability "to enter the married state." This opinion is based on the fact that women who have passed the menopause are equally incapable of procreation, and it has never been claimed that such marriages should be null. The argument is advanced that there is no essential difference between a woman who, through no fault of her own, has lost her ovaries through an operation, and one whose ovaries have become functionally inactive through natural causes; and if one be held incapable of marrying, there is no process of reasoning by which the other can be considered capable. The court expresses the opinion that the possession of the organs necessary to conception cannot, as a matter of law, be held to be essential to entrance to the married state, so long as there is no impediment to the indulgence of the passions incidental to that state. Unfortunately, this judgment leaves the crucial question whether, if a man marries in ignorance of his wife's mutilation, he is not entitled to relief. There is no authorized view of marriage other than that it is an institution for procreation. We presume that for the majority of persons such is the ultimate object of the surrender of sexual liberty. Probably some other court will now hold that the husband has cause for action in not receiving the "nature, quality and substance" contracted for. However, there are some men with whom ovariectomized persons will be at a premium.

PSYCHOLOGY OF THE BIGGEST HUMBUG OF THE NINETEENTH CENTURY.

Since the death of Keely, of Keely motor fame, an interesting chapter has been added to psychology, but it may be that the subject is one more fit for the consideration of the alienist. From what has been said recently, an analysis of the character of the great charlatan proves unusually interesting. It is stated that this man Keely was "ignorant of the elementary concepts of science; that he ruthlessly murdered the English language; and that this hybrid scientist entrapped wealthy and cultured victims, depending upon the inexhaustibleness of human credulity." He seems to have been an inherent, practical psychologist, a master actor, the efficient wielder of adroit, forceful suggestion. He played the part of intense earnestness, and with antithetical hyperbole wrapped his deluded victims around his fingers as the housewife does yarn. His explanations and assertions fairly revel and teem in the quaintest and most unexpected construction—a compound of puckered and condensed nonsense. He purred about his "etheric forces," his "triune currents of a polar flow of force."

It is doubtful if earth has ever seen a greater psychological prestidigitateur. His laboratory was a veritable sense-deceiver. He used force in the most uncanny manner: with a tuning-fork, a mouth-harp, or a violin he set in motion seeming monstrous and incomprehensible forces. A correspondent of the *New York Sun* says: "With the aid of the concealed traps and tubes in his laboratory little figures moved up and down, wheels revolved, and enormous pressures were developed, and the select few who were admitted to the holy of holies were struck by the mystery." Any one who will read some of the Keely literature will be amazed at the fact that for years he held spell-bound and under his control cultured, keen and successful business men by such frenzied, irrelevant and gyrating verbosity. Let us ask our reader if he can explain or understand the following Keelyian proposition:

"In motor ataxy a differentiation of the minor thirds of the posterior parietal lobule produces the same condition between the retractors and extensors of the leg and foot."

Here is a definition of insanity given by Keely which would fill the soul of a Hegelian philosopher with joy or almost tickle to death the aggressive soul of the psychological lawyer. Thus:

"There is good reason for believing that insanity is simply a condition of differentiation of the mass-chords of the convolutions which create an antagonistic molecular bombardment toward the ventral or attractive centers of such convolutions."

Keely himself is not unlike the definition of differential: (1) "A differing in amount or in the producing force." Said of motions and effects. (2) "Intended to produce or indicate difference of motion or effect." Said of machinery.

Professor Carl Henny said of Keely: "I have often wondered whether Keely was a fool or a knave; by which I mean, whether he was ignorant of the well-established laws of nature, and was, therefore, groping in the dark, or whether he practiced deception in order to get money from his supporters. I am now satisfied that he was both a fool and a knave."

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.

The Ninth International Congress of Ophthalmology will take place in Utrecht on August 14th, and four following days. The work of the session will be divided into three sections: (1) anatomy, pathological anatomy, and bacteriology; (2) optics and physiology; (3) clinical methods and operations. The committee of organization of the congress are as follows: President, Dr. Argyll Robertson, of Edinburgh; Secretary-General, Mr. George A. Berry, of Edinburgh; and Professor M. E. Mulder, Professor M. Straub, Professor W. Koster, Professor H. Snellen. The official languages will be English, French, and German. Gentlemen expecting to attend this meeting are requested to communicate with Professor H. Snellen, 622 Wittevrouwenstraat, Utrecht, and inform him whether they will be accompanied by ladies. We can assure our ophthalmological friends of a pleasant time if they attend this meeting. Utrecht is an interesting city, in which the great Donders did his work. The Hollanders are among the most charming of entertainers.

MEETING OF THE TRI-STATE MEDICAL SOCIETY.

On April 4th and 5th the Tri-State Medical Society of Iowa, Illinois and Missouri will meet in Quincy, Illinois, under the presidency of Dr. C. E. Ruth, of Keokuk. An elaborate program is being prepared, and from present indications we can announce that the coming meeting will be one of the best ever known in the history of this progressive society. Quincy is a thriving city of forty thousand population, and has an excellent class of medical men and women. Our readers can expect no disappointment at their hands.

THE KANSAS CITY ACADEMY OF MEDICINE.

There is no medical society in the West doing more good than the Kansas City Academy of Medicine. It is the salvation of the profession in that city. It brings men together, causes them to fraternize, broadens them, and the result is a united body representing the best elements. There is practically no trouble in medical circles in Kansas City. It is the Academy which has brought about this desirable result.

The writer was recently a guest at the sixth annual banquet of the Academy. What he saw, and what he imbibed, made a deep impression upon him; and he left feeling that it would be a glorious thing if every city in America had an Academy the equal of that in Kansas City.

DEATH OF DOCTOR ETHERIDGE.

Dr. James H. Etheridge, Professor of Gynecology in Rush Medical College, died suddenly in Chicago on the 10th instant. This occurrence will come as a personal loss to thousands of physicians who knew Dr. Etheridge, either as their teacher or as a fellow-member of various scientific societies. He passed away in his fifty-fifth year, universally respected and admired.

Dr. Etheridge's death is a loss to this publication. He was one of the first and most willing contributors, and always had a kind word for the TRI-STATE.

ANOTHER PIECE OF EVIDENCE AGAINST THE CIGARETTE.

In a recent article upon the use of tobacco, we learn that science has calculated that an average puff from the cigar sets free over 2,000,000,000 tiny particles, a whiff from a pipe liberates over 1,800,000,000 of these particles, whilst one whiff from a cigarette starts 2,900,000,000 of them circling in the ambient air. So that as regards the number of particles the cigarette has 900,000,000 more than the cigar and 1,100,000,000 more than the pipe. Upon this basis, if particles do harm, the pipe is least hurtful—the cigarette most so.

ORIGINAL ARTICLES.

CHOLERA INFANTUM—A SURVEY OF THE FACTORS IN THE ETIOLOGY OF INFANTILE DIARRHŒA, WITH SPECIAL REFERENCE TO SOIL, SANI- TATION AND HYGIENIC CONSIDERATIONS.

By W. L. BROWN, L. R. C. P., L. R. C. S. (Edin.), etc., of
Glasgow, Scotland.



THE term cholera infantum is comparatively modern, dating from 1773, and was first employed by the famous American physician, Benjamin Rush, professor of the University of Pennsylvania. "By this name," he says, "I mean to designate a disease called, in Philadelphia, the 'vomiting and purging of children.' From the regularity of its appearance in the summer months, it is likewise known by the name of the 'disease of the season.' It is distinguished in Charleston, South Carolina, by the name of the 'April and May disease,' from making its first appearance in those

two months. It seldom appears in Philadelphia till the middle of June or the beginning of July, and generally continues to the middle of September."

Under a different name, the history of this malady can be traced continuously from the pre-Hippocratean era of medicine to the time of Benjamin Rush, and an interesting research it makes. It can be traced in nearly every part of the world, so wide-spread is its geographical distribution; though, on the authority of Dr. Jackson, it seems that Barbadoes (*Boston Medical and Surgical Journal*, 1867, July) is an exception to the otherwise general distribution of the disease.

From the time of Rhazes, practitioners and writers on the subject have ascribed various causes for the onset and continuance of this disease. Rhazes held that it occurred "when the child has been bound up by colds or by the corruption of the milk from bilious humours or phlegmatous humours." Sydenham did not give up the humoral theory, and held that it arose from "hot humours and corrupt nourishment." Willis was the first to ascribe it to some chemical action, which he called "acid fermentation in the stomach." De la Bœ Sylvius, the Dutch chemist, followed, ascribing it to some "sour humour originating in the sweetbread."

The first glimpse of modern theories of the causation of this disease are obtained from Morgagni's "Seats and Causes of Disease" (Vol. II, Book III, Letter 31, Article 9). Morgagni speaks of intestinal discharges free from blood, the "yellow, green, watery, and others of this kind," as

being destructive, not only from the "pain," but also from the "quantity." "And," he continues "all these excretions generally owe their origin to some stimulus that irritates the intestines by what means or from what part soever it got down into them; for as we see that a great quantity of humours is discharged by means of medicine violently purgative, so we may suppose that from some stimulating fluid *which is generated within this canal* or sent down thither from the arteries, the same thing must of course happen." He could not suppose that the symptoms could be caused by "bile" merely. Willis (*Pharmac. Ration.*, f 3c3) had described a form of diarrhœa "almost watery" attended by "gripping tortures," which overspread London in 1670, in which the discharge was so great and weakness so pronounced that if an equal quantity of pure blood had been discharged it could not have produced equal weakness.¹

"Motion and irritation," he held, could be propagated from the stomach to the intestines.

The seasonal recurrence of the malady had also attracted the attention of Willis. He speaks of its "autumnal" recurrence, and says: "For the same time (p. 73), the same year, the same city, London, had intestinal fluxes spreading through it epidemically, without blood indeed, but attended with "gripping tortures."

Willis describes the discharges as "watery fluxes," and Sydenham terms them "mucous fluxes."

The idea that external heat was a factor in the causation of this disease seems to have arisen in America. Thus in Rush's work we find a statement (see Ch. I., p. 14) that "its frequency and danger are always in proportion to the heat of the weather." Prior to that time the origin of the disease had been variously ascribed by American practitioners to "worms," "summer fruits," and "dentition," each of which causes Dr. Rush thus tersely disposes of: Dentition could not be a cause of a periodic illness; worms had never been discovered at a post-mortem examination; and children a year old living in towns were not likely to eat more fruit than children in the country at the same age. An American homœopath, W. A. Edmonds, *American Institute of Homœopathy*, 1881) describes the disease as "the lot of infancy in hot weather of all climes." Heat was henceforth the main theory, and doubtless there was a great deal of evidence to support it. From whatever place statistics were available, heat was a constantly observable factor. The general prevalence of this disease and its highest mortality occurred almost always simultaneously with the hot periods of the year. Thus in Berlin in 1877-1882, the total deaths amounted to 17,641, of which June had 14,418, July 6,226, August 2,889, respectively. The thermometer came to be looked upon as an index for an outbreak of this disease. Whenever the "summer level" was reached (62° to 66° Fahr.), the expected outbreak usually occurred. This view was endorsed by Dr. Ogle,² who suggested that the death-rate followed the "mean weekly" temperature; that it became high as soon as that temperature reached 63° Fahr.

This appears to be a very good index, for in many of the Southern States this "summer level" is reached in spring-time, and the disease

¹ Carolus Piso "de Diarrhœa Serosa" (Observ. de preteritis, hacten morbis ab aqua ortis. sect. 4, c. 1).
² 45th Registrar-General Annual Report, London, 1885, p. 13.

comes to be known in Charleston, for instance, as the "April and May disease." Within certain limits, therefore, a definite relationship can be shown to exist between the high temperature and high death-rate from infantile diarrhœa. This view, however, was not the only one propounded, and which received much support. Robert Pemell, an old practitioner of 1653, referred the cause of the trouble to the humors flowing to the belly, causing the "fluxes." These humors were started because "they suck or drink more than then is meet." He imagined that the disease was most frequent in "moist children," and disposes of the heat argument by suggesting that "there cannot be so much heat as to produce so much acrimony and saltness."

Dr. Ballard³ in 1880 conducted an investigation on the effect of heat as a causal agent, but came to the conclusion that mere heat was not a sufficient cause of the disease. "It is not," he writes, "the main cause of the diarrhœal mortality, but is exerted indirectly."

Many other factors have been suggested to account for the origin of this disease. The weather has always been regarded as a factor. Cold brings the epidemic to an end, and a lowering of temperature diminishes the mortality. Moisture seems to prevent a number of deaths, probably because the evaporation tends to reduce the temperature. No very definite statistics can be obtained to show the effect of climate on this disease, although some writers assure us that in tropical countries children are more or less immune from the disorder.

Sea level has been mentioned as a factor. Stephanos, a Greek physician, mentions that this disease is disastrously prevalent on the low plains and islands in Greece, while it is seldom seen in the higher lands, where the temperature is more moderate.

The influence of soil has received deep consideration from writers on this subject, especially Buck and Franklin.⁴ On this point there has been considerable diversity of opinion. Some hold that wetness of the soil is an important factor, and others that the mortality seems to have some ratio to the highness or lowness of the sub-soil water of the district. Ballard thinks the soil possesses a decided and distinct importance. A rocky soil, with little superincumbent material, lowers the diarrhœal mortality. On the other hand, a loose soil, freely permeable by water and air, is apt to give a high mortality. We may quote more fully what Ballard has to say on this point: "Dwellers on loose, slabby soil, as commonly seen overlying solid rock, have more or less diarrhœa, in proportion as the slabby material is in small pieces and mixed with looser earthy matter, or in larger blocks with little intervening earth. Clay soils, other things being equal, do not appear to be in themselves among those soils specially favourable to high diarrhœal mortality; when they have seemed to be so, the connection has appeared to me to be otherwise explicable: A soil which is a mixture of clay, sand and stone (commonly called "marl") is apparently favorable or unfavorable to diarrhœal mortality in proportion as it is loose and permeable to air and water on the one hand or plastic on the other. The presence of much organic matter in any soil renders it distinctly more favorable to high diarrhœal mortality than it otherwise

³ Loc. Gov XXXV Report, 1889, p. 2.

⁴ *Medical Times and Gazette*, January, 1876, p. 94.

would be." Sir R. Thorne-Thorne, as one would expect, endorses and amplifies this view. "There is strong presumption," says Sir Richard Thorne, "since the late Dr. Ed. Ballard's researches, that the question of 'soil' is in this disease a most important factor, and that the essential cause of it is bound up with the life processes of a micro-organism—not yet definitely differentiated—which exhibits its vital manifestations in the superficial layers of the earth. The differing circumstances of the soil seem to have a most important influence in determining whether the organism is to live and multiply or whether it is to be deprived of its power for mischief." The medical officer of the Local Government Board believes that in presence of organic matter of towns the vegetative vitality of the bacterial or immediate causal agent is likely to be ensured.

On the other hand, it has been found that excessive wetness and complete dryness of soil appear to be both unfavorable to diarrhœa. The degree of moisture specially favorable is defined as an amount of habitual dampness which is decided although not sufficient to preclude the free admission of air between the elements. It might be well to contrast with these views some statements which apparently controvert them. Thus, if we examine the table of deaths from cholera infantum at Berlin during the summer months in conjunction with the corresponding sub-soil water level, compiled by Hirsch,⁵ we seem to obtain some evidence that the condition of the sub-soil water cannot altogether be relied on as measure of the rate of mortality or as a guide to the incidence of the disease. The same thing may be said regarding the fluctuation of ground water.

Table of deaths from cholera infantum at Berlin during the summer months, with the corresponding sub-soil water level:

June	Height of Sub-soil Water	Deaths	July	Height of Sub-soil Water	Deaths	August	Height of Sub-soil Water	Deaths
1882	1.60	533	1880	1.47	1136	1880	1.42	448
1880	1.63	950	1882	1.51	829	1877	1.49	469
1881	1.71	508	1878	1.67	770	1881	1.52	480
1878	1.82	826	1877	1.69	1207	1878	1.55	431
1877	1.90	785	1879	1.75	991	1882	1.62	570
1879	1.91	816	1881	1.83	1293	1879	1.65	554

To this group of external atmospheric, sanitary, and hygienic causes, come to be considered other factors, such as the density of the population, and the crowding together of dwelling houses, factors which affect the intensity of every zymotic disease and have no special exclusive influence on infantile cholera in particular.

The population of London, as we have seen, increased in two hundred years from 500,000 to 5,000,000; but there is no corresponding increase of the mortality from infantile diarrhœa. Suggestions, indeed, appear to show that it has rather diminished in proportion to the increased population, and the death-rate from infantile diarrhœa now is only a little larger than the mean death-rate from the same cause for England and Wales. A distinction, however, has to be drawn between the increase of population and the

⁵ Hirsch's Hand-book of Geographical and Historical Pathology, vol. *iji*, p. 385.

density in certain localized areas. Increase in the density is usually, it appears, followed by a distinctive increased fatality.

It is scarcely possible to mention any sanitary abomination which has not been alleged as a causal agent in the production of infantile diarrhœa. Noxious sewers, nauseous smells, proximity of cess-pools and ash pits, back-to-back houses, dirty and dismal surroundings, have all had their share of blame for creating outbreaks of excessive virulence of this disease. These factors must also hold good in any zymotic disease, and have no distinctive significance as the causal agents of this particular malady. In areas teeming with courts and closes, back-to-back houses where the air is still and confined, one naturally expects outbreaks of diarrhœa at all periods of the year, but of a character not suitable for classing among zymotic or epidemic diseases. A contaminated water supply has also been blamed; but what infant of a year old drinks water in sufficient quantities to bring about virulent diarrhœa? Many improvements in town dwellings have been made—streets are built wider, back-to-back houses have been largely abolished, more open spaces are provided, more light, better soil, less affluvia, and better appliances for removal of unsanitary material.

Sanitary improvement, however, does not seem to have abolished or even greatly mitigated the disease, even in those towns where improvement was most called for and where most has been done. In 1851 Leicester stood out prominently as a town virtually without drainage and without hygienic relations of importance. The death-rate was exceedingly severe, especially in the years 1849, 1850 and 1851. The population for each of these years was 58,000, 59,000 and 60,000, respectively. The percentage of mortality among children under one year was, roughly, 28, 29 and 29 for the respective years. The birth-rate and the mortality increased in almost arithmetical ratio with the increase of the population. This continued for many years until the deep drainage of the town was completed. In 1858 the zymotic death-rate began to fall. The improved drainage of Leicester in 1855 did not prevent an epidemic of fever in 1857, or an increase in diarrhœa mortality from 115 the preceding year to 202 in that year. It is strange that in 1858, "a cold impoverished year," with an excessive local death-rate the percentage of diarrhœa mortality fell to 56 as compared with 202 in the year 1856.⁶

Since 1837 more attention has been given to a group of causes which may be classed as "those dependent upon the mother." Sir William Fordyce,⁷ in "A New Enquiry Into the Causes, Symptoms, and Cure of the Putrid and Inflammatory Fevers, with an Appendix on Hectic Fevers," London, 1773, p. 107, thought that about 20,000 children in London, Westminster and the suburbs were ill with this disease, and that it was caused in the children of the upper classes by mistaken regimen and the improper manner in which children were reared, for, says he, "they live in hot bed-chambers, are fed on meat before they have teeth, on biscuits not fermented, on buttered rolls or tough muffins, calves' feet jelly, or strong broths."

Every practitioner knows that the disease does not always break out in debilitated babies or cease badly-nourished babies only. It attacks children to all appearance healthy and sound; and whilst most prevalent in

⁶ Sanitary Record, London, 1879, x, 193, 196.

⁷ "A New Enquiry Into the Causes, Symptoms, and Cure of the Putrid and Inflammatory Fevers, with an Appendix on Hectic Fevers," London, 1773, p. 207.

its epidemic force and fatality amongst the children of the poorer class, it does not restrict itself to that class, but visits the rich, well-nourished, well-housed, and well-clad, in districts which could scarcely be called the poorer districts. Sir Richard Thorne-Thorne is inclined to disagree with those facts and to maintain that no milk from the mammary gland of its mother ever caused the death of an infant from this specific summer diarrhœa.

Creighton⁸ suggests that the outbreaks may be accounted for from lowered vitality due to weakness inherited from the parents. He illustrates this by observing that a most serious outbreak of cholera infantum occurred in 1720, at the time of the drink mania, when the parents were constitutionally weakened by excessive intoxication.

This is purely an *ex parte* statement, made by one of those doctors who attribute to one cause "all the social, moral, and physical evils of humanity." Creighton was, most of his life, a rabid teetotaler, inebriated with the prejudices and bias of that class. There is no evidence even of the statement; for during the "drink mania" English arms were everywhere conquering, and English brains shone then with a luster scarcely surpassed in the best days of ancient Greece. Our former study makes it obvious that cholera infantum by no means attacks only the weakest children who have lost the "stamina vitæ," as suggested by Creighton.

For every case of diarrhœa occurring in children under five, there are probably four times as many above that age who suffer in the same way.⁹

Ballard¹⁰ actually shows that forty-two per cent. of deaths occurred among "healthy" children as against fifty-seven per cent. in "weakly," and concludes: "Our experience of these Leicester epidemics by no means supports an opinion commonly held, that a summer diarrhœal epidemic makes its first fatal swoop upon the weakest children."

From the figures given in support of the statement, it appears that previous general health has very little to do with even fatal cases. It is a matter of common observation among practitioners that the fattest and healthiest children frequently succumb to the trouble, while those apparently "weak and staminaless" pass through it with their lives. Mortality statistics, however, take no account of the enormous multitude of cases of infantile diarrhœa which recover under treatment. In 1895 no less than 10,554 children died from diarrhœa, a number representing a very small proportion of those attacked but who recover. Of recoveries we know nothing statistically, and this makes the mortality statistics somewhat misleading. It may be true, however, that, as a general rule, weakness has much to do with "speedy collapse of the most rapidly fatal cases and with the cases that last over forty-eight hours." Dr. Ballard estimated that out of every seventy-five children twenty-six of those who died were "not weakly."

Since it appeared from the first census report that the brunt of the mortality fell upon industrial towns where many women are engaged in some form of outdoor employment, persevering efforts have been made by medical officers to effect some legal restriction as to the working hours of

⁸ Creighton: "Epidemics in Britain."

⁹ Lancet, 20th August, 1887. Article by Dr. Tomkins.

¹⁰ Report to Loc. Gov. Board, pp. 43-45.

married women. Dr. Tatham¹¹ would have such women prevented from returning to work too soon after child-birth. Dr. J. Reid¹² is of the same opinion, and would have mothers legally restrained from industrial occupation for some time after child-birth; while Dr. Weir¹³ argues that it is useless to expect that "parents and guardians of the infant population will either reform themselves or be reformed while the sewer is held up as a source of every ill of babyhood," and suggests the following sweeping remedies as more likely to modify the high death-rate from infantile diarrhœa than from any other cause:

- (1) Prohibition of outdoor labor among married women.
- (2) Curtailing of boy and girl marriages.
- (3) Prohibition of baby-farming.
- (4) Prohibition of quack drugs.
- (5) Postponement of vaccination to the age of six months.

Since 1879 baby-farming has been prohibited, the vending of quack drugs placed under act of Parliament, boy and girl marriages are less frequent, and in Leicester, at any rate, early vaccination would not be an agent likely to cause infantile diarrhœa, especially in the winter season. In Leicester the total births in 1895 amounted to 5960, of which 273 illegitimate births showed that boy and girl marriages were less frequent. It would be interesting to know what Dr. Weir proposes should be done with these 273 children. In 1857 the deaths in Leicester from diarrhœa were 202. In 1860 there were only 56 deaths in Leicester. In 1895, out of a population of 174,624, the deaths amounted to 362.

Such regulations are either merely but palliatory of the disease or else do not affect it at all. No class of women are harder worked or labor under more trying circumstances of climate and occupation than the agricultural classes, whose children least frequently suffer from diseases of this kind. When their arduous bodily labor is compared with the work of women in Yorkshire and Lancashire, or in such towns as Leicester, Worcester, Northampton, Coventry, Norwich, Birmingham, Nottingham, and Preston, it is found that in industrial centers women work under much better conditions than in agricultural districts, or even than women engaged in the lower forms of domestic work. In Preston thirty-two per cent. of women work in cotton mills, well ventilated, well lit, with no excessive prolongation of hours. In Leicester twenty per cent. and in Northampton thirteen per cent. are engaged in the boot-making trade, which means sewing, stitching, packing, and such work, all of which are comparatively light occupations, with moderate hours. Other industries for women are glove-making, silk-weaving, and others of a similar nature. In face of these facts, it would be absurd to apply legal restraint as a preventive of infantile cholera. Palliative remedies of that class are based upon an absolutely wrong idea of the etiological causes which bring about these periodic outbreaks.

Most of these remedies have been suggested on the supposition that the infants of these women are more likely to be neglected than if the women nursed them themselves, and this seems to be borne out by the exceptional mortality which exists among illegitimate infants. Dr. Ballard

¹¹ Brit. Med. Journal, 1892, vol. ii., p. 277.

¹² Brit. Med. Journal, 1892, vol. ii., p. 275.

¹³ San. Rec., London, 1879, x., 193-196.

is inclined to think that the whole question of the occupation of women outside the home resolves itself into the question of maternal neglect, with the substitution of artificial feeding for feeding at the breast.

A third group of causes to which outbreaks of infantile cholera have been attributed are those in which the child itself has been alleged to be the factor.

All maladies to which infants are prone have for ages been attributed to causes quaintly summarized by Walter Harris in his work on "Diseases of Children" (1693):

- (1) To their catching cold.
- (2) To the too thick milk of the nurse.
- (3) To their oversoon eating flesh.
- (4) To the mad and imprudent fondness of mothers and many nurses, who do often permit their infants to sip up wine and other strong spirituous liquors.

Regarding the last of these items, it is interesting to note the early American views of the value of wine in infancy, as laid down by Dr. Benjamin Rush. He recommends in this disease the use of "sound old wine, in the summer months, from a teaspoonful to half a wineglassful every day, because," he says, according to his observation, "children who sip the dregs of the wine that their mothers have been drinking are much less subject to cholera infantum than the children of the poor." The second of these causes Harris characterizes as the great danger to "sucking infants." "Upon how inconstant and slipperie a plan doth the health of these innocent children shift. It's this," he says, "that are the frequent occasions why we hear so often the sound of the passing bells for some one child that it is undeservedly atoning and expiating the faults and mistakes of its nurse." He adds: "If this coagulated or poisoned food fall from their stomachs into the intestines, then 'gripes and colic pains, greenish excrements, and very often most dangerous fluxes, do ensue.' (Page 39.) "From the middle of July to the middle of September these epidemic gripes of infants are so common (being the annual heat of the season doth entirely exhaust their strength) that more infants affected with these do die in one month than in other three that are more gentle."

The question of nursing is a cause that has ever been enlarged upon and has afforded inspiration to the pens of the "poet" doctors of former days. One poet thus advises the overindulgent mother to deal wisely with her infant:

"Oh! be not tempted by his artless smiles
On fondness, that a mother's mind beguiles
To load his stomach with digestless meats,
But keep a medium in whate'er he eats,
Lest that wherewith great parent nature strives
(The better nurse) to lengthen infants' lives
And make their bodies grow, you misapply
And the poor child in dangerous sickness lie
From painful vomitings, and other woes,
To which o'erloaded stomachs still dispose."¹⁴

¹⁴ Tytler's *Pædotrophia*, Lond., 1797, bk. ii, 92, l. 515 to 524.

Similarly, Dr. Underwood on this subject remarks (vol. ii, p. 242): "So many little infants fall a sacrifice to the use of undigested food under the age of six months, being carried off by vomiting, purging, or fits, that whoever would preserve them over the most dangerous period of infancy, cannot too cautiously attend to their diet at this time."

The following poem by Luigi Tansillo (1510), which evidently inspired Scevole de St. Marthe (born 1536), is a very interesting account of Roman customs about the beginning of the 16th century, and throws considerable light on the habits of the Italian matrons of that period and on the practice of employing foster mothers. The author gives his views very plainly on the desirability of infants being nursed by their own mothers:

"Were modern truths inadequate to shew
That to your young a sacred debt you owe,
Not hard the task to lengthen out my rhyme
With sage examples drawn from ancient time."

It seems strange to invoke the authority of antiquity in support of a practice so essentially necessary to the very existence of the human race as that of a mother suckling her own child. As a satire upon his countrywomen Tacitus notes this custom as a peculiarity among the mothers of ancient Germany.¹⁵

If the reverse of this had been true, and the historian had remarked that women of rank thought themselves degraded if they nursed their own offspring, and such task was therefore delegated to the lowest of the people, it might have been thought extraordinary, and would almost have rivaled the fashionable practice among the inhabitants of the South Sea Islands, of exposing their children, a practice much more similar, both in its motives and effects, to that of sending out a child to nurse, than is generally imagined.¹⁶

"Of Rome's twin founders oft the bard has sung,
For whom the haggard wolf forsook her young.
True emblem she of all th' unnatural crew,
Who to another give their offspring's due."

By the ancients the qualities of the suckling mother were held to be imbibed by the food which was employed to rear them. Thus Romulus and Remus were said to have imbibed the ferocious qualities of the wolf.¹⁷

Many writers still incline to this view of the causation of epidemic infantile diarrhoea. This view is still held in Italy,¹⁷ and doubtless this accounts for the high infantile mortality in Italian towns, crowded, dirty, and densely populated. It is a matter for wonder how any babies are

¹⁵ "Sua quamque mater uberibus alit, hec ancillis ac nutricibus delegantur."

¹⁶ "An non expositionis genus est, infantulum tenerum, adhuc a matre rubentum, matrem spirantem matris opem ea voce implorantem quæ movere dicitur et feras, tradere mulieri fortassis nec corpore salubri nec moribus integris; denique cui pluris sitpecuniæ pax illum, quam totus infans tuus?"

¹⁷ "E per prova si e visto infin, che quegli,

Ch' ebbe latte di bestia, fu efficace

A farlo bestia diventare anch' egli.

Ebbe Romolo, e Remo una vorace

Lupa per Balia; ed ambedue redaro

L' inclinazione sua ladra, e rapace."—"The Nurse," a poem translated from,

the Italian of Luigi Tansillo by William Roscoe.

reared in Venice at all. The women are so utterly ignorant of the plainest rules, so devoid of common sense, so jealous of their husband's interference, and so skeptical of the parish doctor, that infant mortality is appallingly high. Many a man will tell you that he has eight or ten children, but, on inquiry, it will turn out that only four or five are living. It seems that quite a half of those that are born die in infancy, and a wife lays her account to lose her first three or four. She informs you quite calmly that it is difficult for them to live. Later on she may become a little more careful and experienced, but even so the waste of infant life is terrible and the dangers that surround the infant immense. If, however, it does survive black coffee, sour wine, and raw apples freely administered during its first ten months, which bring on groppo (infantile diarrhœa), convulso, riscaldamento, and escapes the concoctions, lotions, and prescriptions of the old crones of the quarter, it will probably grow up into a fine and healthy man, robust, sane, and happy.¹⁸

On the other hand, Trousseau, who devoted much attention to this disease, does not include "feeding" among his group of "causes." He attributes the main cause to the influence of "season," and illustrates the fallacy of attributing feeding and bad hygiene as the main cause by quoting the case of his own grandson, who required very vigorous and prolonged treatment, and the case of two twin sisters, daughters of a rich bourgeoisie, who were so reduced by the diarrhœa that at seventeen months old the one weighed fifteen and the other sixteen pounds, and were so emaciated that the nurse could not be induced to take them out for carriage exercise.

The modern scientific view inclines in the direction indicated by Trousseau. It has received the confirmation of the experience and research of Dr. Ballard, whose opinion on this subject is of consequence:

"Although there is ground for the popular notions which associate epidemic diarrhœa with the consumption of articles of diet, the almost equally common notion that such diarrhœa arises from the indigestibility of food or from faulty digestion on the part of the consumer of it is not, I am disposed to believe, so well founded; rather I am inclined to think that epidemic diarrhœa due to food or arising from some extraneous substance in the food is by itself no sufficient cause of the malady. As regards the influence of the mode of feeding of young infants, incidence of diarrhœal mortality upon infants fed, on the one hand, exclusively on the breast, and on the other hand partially or entirely upon other kinds of food is of special interest. The general conclusions arrived at by medical men who have studied the matter, and by medical officers of health who have adduced statistics in support of their opinions thereon, are generally to the effect that infants fed from the breast are remarkably exempt from diarrhœa as compared with infants that have been fed otherwise; and that feeding from 'a bottle' has been principally concerned in the fatal diarrhœa of infants. But my difficulty about accepting these conclusions in their entirety has hitherto been absence of data as to the proportion of healthy children fed in these different ways.

"In this difficulty Dr. Hope, assistant medical officer of health for Liverpool, has come to my assistance, and has made some comparative

¹⁸ "Life on the Lagoons," by Horatio F. Brown, p. 225.

statistical enquiries among the infants in that city who were healthy and among others who had died of diarrhœa in the summer season, and the general result of his enquiry, so far, is this:

(1) "That infants fed solely from the breast are remarkably exempt from fatal diarrhœa. Even among the low class Irish the degree of exemption being exactly the same among the Irish as among the English and other races in this city.

(2) "That infants fed in whatever way with artificial food to the exclusion of the breast milk are those which suffer most heavily from fatal diarrhœa.

(3) "That children fed partially at the breast and partially with other kinds of food suffer to a considerable extent from fatal diarrhœa, but very much less than those who are brought up altogether by hand.

(4) "As respects the use of 'the bottle' that it is decidedly more dangerous than artificial feeding without the use of the bottle.

"From observations which I have made," he continues, "it is to be inferred that the circumstances of 'food-keeping' and its exposure to telluric emanations (*e. g.*, in underground cellars), or to emanations from accumulations of domestic filth, etc., (*e. g.*, when kept in pantries, etc., to which such emanations have more less free access), tends to render the food liable to produce diarrhœa, especially where the storing place of food is dark and is not exposed to currents of air."¹⁹

It must be borne in mind that artificial forms of feeding are, to a large extent, of quite modern origin, and cannot account for the outbreaks of this disease described by Rhazes or even by Sydenham. A prejudice seems rooted in the human mind against artificial feeding of infants, and that prejudice has existed in nearly every country, and by no means among uneducated people. It exists in England to the present day, and many Scotch mothers still hold the traditionary views which have been handed down to them from the time of Antiphanes. Many mothers in Scotland will not rear their infants on cow's milk lest they grow up clownish and vulgar, rude and coarse, both in appearance and behavior. In the ancient annals, whether true or merely a poetic fiction handed to posterity, we read of strange foster mothers. Romulus was suckled by a wolf, Sirius by a bitch, Telephus, the son of Hercules, by a fox, Pelieus, the son of Neptune by a mare, and lastly, Ægisthus by a she-goat.²⁰ Tradition relates, as we have before observed, that all these celebrities imbibed the characteristics of those animals and displayed them throughout the whole of their subsequent life. Perhaps the first mention of the deliberate artificial rearing of children has been handed down to us on the testimony of Antiphanes, who states that the Scythians, a very strong and numerous race, gave their children, immediately after their birth, the milk of domestic animals. This treatment was specially adopted by that nation to get rid of certain diseases which the mothers thought their children caught from their Grecian nurses. This was in the time of Alexander the Great. If we consider Moses, the conditions of his early life would lead one to the probability that he was fed by some artificial means; at least, a similar legend

¹⁹ Ballard's Report to Loc. Gov. Board, 1888, p. 6.

²⁰ Talbot: A Fragment of Assyrian Mythology in Transactions, I., pp. 272-277.

is related of Sargon-sarali of Akkad, B. C. 3800, who, it appears, never knew his father. But his mother was a princess.²¹

The fable reads thus: "My mother was a princess; my father, I did not know him. My mother, the princess, conceived me and secretly gave birth to me; she placed me in a basket of reeds, she shut up the mouth of it with bitumen, she abandoned me to the river, which did not overwhelm me. The river bore me, it brought me to Akki, the drawer of water," etc.

The Egyptian Horus is always represented as being breast-fed. In Egypt the mother had full charge of the child. The bottle, if it is a factor at all in the causation of infantile cholera, is a comparatively modern factor. The weight of present opinion inclines in the direction of attributing this periodic epidemic of diarrhœa to some organic changes produced by micro-organisms, or by some mechanical decomposition, which may be dependent upon various factors for their existence, such as we have indicated—the conditions of season, conditions of soil, the presence of micro-organisms and of albuminous material. The food of the infant, therefore, is an etiological cause which must be carefully examined in a search for the causation of these outbreaks. How it behaves in the presence of bacteria or other organisms, what chemical changes it undergoes in the body, and whether from it by these agencies it is capable of producing some kind of substance which acts as a virulent chemical poison, produced by the body itself, which may prove to be the cause of these epidemics.

The more recent views on etiology of this malady may be briefly given. Emmet Holt records that out of nearly 2000 fatal cases only three per cent. had been breast-fed. This immunity, he says, is no doubt due to the fact that breast milk is sterile and not swarming with organisms, as cow's milk is apt to be. But this seems to be begging the whole question. He remarks that there is less plausibility about the disease being produced by sewer gas, emanations from the soil, or the ingestion of sour milk, although each of these may contribute to the causes of diarrhœa, but not the invariable cause, because infants fed on sour milk do not invariably suffer from diarrhœa; and Ballard has pointed out that diarrhœa is not specially prevalent in some towns where sewer gas is constantly present in the houses. There nevertheless is a strong probability that milk is the vehicle for the entrance of organisms or poisons into the system of the infant and a potent agent in the dissemination of infantile cholera.

Flugge has recently shown that some air bacteria are often present in milk, cow dung, hay seeds, street dust, and that they act on the casein, form peptones and ptomaines without even turning the milk sour. If this milk is injected into a guinea-pig it causes the death of the animal.

Baginsky failed to find any specific or pathogenic organism and thought that decomposition products were the real poisons.

Meinart thinks the disease is produced directly by the action of high temperature, sort of heat-stroke, having no connection with poisons.

The general tendency is to conclude that summer diarrhœa is a definite zymotic (see Farr) disease. That the high temperature favors the development of organisms, especially in milk, and produce many poisons,

²¹ Maspero: *Dawn of Civilization*, 1896, D. 597.

such as muscarine, or resembling it in its composition, which when taken into the stomach is capable of producing all the symptoms of irritant poisoning. As they flourish both inside and outside the body, there is good reason for believing that they play a part in giving rise to severe epidemic diarrhœa.

There appear to be some factors at work in some districts which are absent in others.²²

This view has recently received the adhesion of Sir R. Thorne-Thorne, who makes use of the following language: "As consistent with the view that the influence of soil is a prime factor in this disease, I may say that there are instances of towns standing almost side by side, which in density of population, in trade and occupation, in climate, and other like conditions, exhibit no appreciable difference. Yet whilst one town is notorious for its ever-recurring autumnal diarrhœa mortality, the other stands out with equal prominence, by reason of its maintaining comparative freedom from this fatal diarrhœa. The circumstances of soil in one place are to be thought of as responding to the requirements of the micro-organisms; in the other as failing to respond to them."²³

Modern pathology is inclined to regard "bilious diarrhœa," or cholera infantum, as due to some such causal agent with which we are as yet imperfectly acquainted. The modern belief points to the theory of poisoning, the cry raised in Spain during the epidemics of the Middle Ages, and to regard contamination of food or of water as the source of disease; but whether the poison is manufactured inside the body or outside the body is, like many another problem in medical science, not yet clearly made out. But enough has been done to show what important effects on the animal body are produced by the alkaloidal products of albuminous decomposition. Further inquiry into the etiology of this vast and tremendously important subject must proceed in the direction of enquiring how far infant food is capable of producing strongly irritant alkaloidal poisons, and whether these substances enter through the milk, through the mother, or are developed in the alimentary canal of the infant.

²² *Lancet*, 10th August, 1887. Tomkins.

²³ *Lancet*, November 6, 1897, page 1170.

Gonorrhœal Vaginitis.—Dr. Fairchild (*N. Y. Med. Times*, January, 1899), in an article on "Some Considerations in the Treatment of the Diseases of Women," says: "In the treatment of gonorrhœal vaginitis I place great faith in copious vaginal irrigation. No less than two gallons of water, and better still, three or four, should be used at each sitting. The temperature of the water should be slightly over 100 degrees F. at the commencement of treatment, but later be increased to a degree compatible with the patient's comfort. It is of great importance that in taking the injections the patient should lie flat on the back with the legs drawn up against the abdomen and the hips slightly raised by means of a pillow. A rubber sheet spread beneath her, with the lower end gathered up in a fold and placed in a pail will prevent the couch or bed from becoming wet."

OBSERVATIONS ON ONE THOUSAND CONSECUTIVE CASES OF ANESTHESIA IN THE SERVICE OF DR. A. J. OCHSNER, AUGUSTANA HOSPITAL.

By ISABELLA C. HERB, M. D., of Chicago.

The cases presented were operated on by Dr. A. J. Ochsner, at the Augustana Hospital, during the last fourteen months, beginning September 3, 1897, ending November 9, 1898, being the third thousand in a continuous series of observations; the first thousand having been reported by Dr. Lawrence H. Prince, the second thousand by Dr. G. W. Green. As in the other reported cases, this series includes only those in which a general anesthetic was necessary.

Of these one thousand consecutive cases three hundred and ninety-seven were males, six hundred and three females; fourteen were under one year of age, seven were over seventy years of age. The youngest was thirty-six hours old, the eldest seventy-seven years.

Chloroform was used alone one hundred and ten times, ether three times, chloroform and ether in all of the other cases. The longest duration of chloroform fifty-two minutes, ether seventy-seven minutes, chloroform and ether two and one-half hours. Shortest duration chloroform anesthesia five minutes, chloroform and ether ten minutes.

Average amount of anesthetic used was 8 cc. of chloroform, 115 cc. of ether. The average time to produce surgical narcosis, not unconsciousness, was eight minutes. The shortest time for induction was one minute. This little patient, operated on for spina bifida, was put to sleep and kept asleep for twelve minutes on 1 cc., or about fifteen minims, of chloroform.

Contrary to the opinion of some observers, Dr. Prince made the statement in one of his articles on anesthesia, that in his belief shock could be produced during profound surgical anesthesia by the manipulation of sensitive parts. In support of this opinion I will report in detail the following case:

CASE 2831.—Was a very fleshy man, forty-three years of age, an alcoholic who had a strangulated inguinal hernia. The patient was suffering most excruciating pains from the severity of the strangulation, which occurred in the hospital during an attempt at gastric lavage. Chloroform and ether were administered in the usual way within a few minutes after the strangulation occurred. It was found very difficult to reduce the strangulation by taxis, and with the beginning of the manipulations the patient showed a tremendous amount of shock. The pulse became more and more rapid, going up to one hundred and sixty beats per minute, and then became so weak that it could no longer be counted. Respiration was shallow and the body was covered with perspiration. The anesthetics and the manipulations were stopped, and the conditions were improved slightly. The reduction was then completed without giving any more of the anesthetic. The condition of the pulse remained dangerously weak for about two hours after the anesthetic was administered. A week later the same anesthetics were given in the same manner for an operation for a radical cure of the hernia, and the patient's condition

remained normal throughout the operation, his pulse and respiration being observed very closely. This seems to show that his previous condition was due to the shock caused by manipulation, rather than to the anesthetics.

The operations performed included one hundred and four appendectomies, one hundred and fifty-nine laparotomies, fifty-seven herniotomies, fourteen vaginal hysterectomies, nine kidney operations, twelve amputations, fifteen fractures, four old dislocations, one hundred and eight bone operations, one hundred and sixty-five minor gynecological operations, three hundred and fifty-five operations on soft parts not classified.

In presenting this subject of a thousand cases without a death, I have a double object. First, to advocate this special method of inducing anesthesia; and second, to make a plea for the anesthetic specialist. We believe that in every well-regulated hospital, or institution, where surgery is done to any extent, there should be an anesthetizer on the staff. This does not necessarily mean that this person should give every anesthetic, but it does mean that he should have general supervision, instructing the internes or assistants, making careful observations on the different conditions presented and keeping accurate records.

The method which I will briefly describe is the one invariably used in the Augustana Hospital, and was introduced in that institution by Dr. Lawrence H. Prince in 1896. The day before the operation the patient is subjected to a thorough examination, when the condition of the heart, lungs and kidneys is noted. A warm bath is given to stimulate elimination. In order to have the alimentary tract in the best possible condition the diet is limited to liquids, and one or two ounces of castor oil is given, to be followed the next morning by a warm enema. On the morning of the operation, when the patient is taken to the anesthetic room, the anesthetic number, date, name, sex, age, general condition, habits and time are noted. For this purpose we use the blank which I will pass around. The remainder of the blank is filled in after the operation is completed. The face is anointed with vaseline, a thick pad of moistened cotton placed over the eyes and anesthesia commenced, the patient being instructed to count after the anesthetizer. The inhaler used is the Esmarch mask covered with three or four layers of gauze, the number depending on the quality of gauze. The same mask is used for chloroform and ether, as well as the same method of administration, namely, the drop method. Chloroform is given till the patient is asleep or insensible, when ether is substituted. If, however, at any time during the administration of the chloroform the breathing becomes shallow or the heart embarrassed the chloroform is stopped altogether, suspended for a time or a few drops of ether given with the chloroform. The two anesthetics are never mixed together, but kept in separate bottles. In this way the exact amount of each can be regulated according to the discretion of the anesthetizer, which is a great advantage to one who understands the points of advantage and disadvantage of each of these agents.

We think the simple Esmarch mask superior to any other for ether as well as chloroform, because it allows an abundant admixture of air, which is desirable not only during anesthesia but to avoid after-complications. Patients do not become so thoroughly saturated with the poison, consequently the danger to lungs and kidneys is decreased, besides there

is less retching and vomiting afterwards, advantages not to be ignored by conscientious workers. No drugs are ever used, either before or during the anesthesia. As soon as sleep is induced the lower jaw is hooked over the upper and held in this position. We deprecate the use of gags, because they throw the jaw backwards, the very thing to be avoided. The head should be on a level with the body, a small, hard pillow being preferable to a feather pillow. The patient is not removed to the operating table till thoroughly asleep, and this is done as gently as possible. If removed too soon, he is sure to retch or vomit, and will consume as much time in going to sleep as at first.

The pupillary reflexes are an infallible guide to the degree of narcosis. No attention is ever paid to other reflexes. We believe touching the cornea is as unscientific as it is unclean. It tells you absolutely nothing further than that your patient is unable to resent the insult. A contracted, immovable pupil teaches us we have surgical narcosis. A dilated, immovable pupil has danger written everywhere; while a dilated pupil which reacts to light shows only partial anesthesia. A very trying position for an anesthetizer, and one which tests his judgment as well as the patience of the operator, is where the patient is asleep but holds the abdominal muscles tense during manipulations or breaking up of sensitive adhesions. If these patients are allowed a few whiffs of fresh air, and the anesthetic resumed, the spasm will pass away. On the other hand, if the narcosis is not complete, a few drops of chloroform will relax the muscles.

A word about artificial respiration, which we found necessary to perform in six cases. The tongue should be drawn out, the jaw held forward, the arms grasped near the elbows and swept around away from the body and over the head till they meet above it, then given a strong pull for a few seconds, then returned to their former position alongside the chest, making pressure against the lower ribs. This plan, if regularly carried out, should make about sixteen complete acts of respiration in a minute. As is well known, this is the regular Sylvester method of performing respiration, and you are all familiar with it; yet there is not one person in twenty who performs it properly. The arms are moved too rapidly and too great force is used on the chest. Stretching the sphincter seemed to be of some value. In no case was any drug used. The patient needs pure air and when supplied with it quickly revives.

In the first five hundred cases Squibs' chloroform and ether were used, in the last five hundred Mallinckrodt's were used. There was no difference observed in favor of either manufacturer's products.

It was observed that alcoholics and morphinists resisted the anesthetic for some time; but when they finally succumbed, it was with surprising suddenness and narcosis was very profound. When anesthesia is established, they require no more to keep them asleep than other patients.

Many times in young children we noticed a peculiar moan on inspiration which means spasm of the glottis. This may occur before or after narcosis is complete, and unless fresh air is allowed the child will stop breathing.

These observations seem to confirm the following conclusions:

1. If anesthetics are given carefully, according to the method described, difficulties of any kind are experienced in only a very small proportion of cases.

2. That a dilated, immovable pupil is a sign of danger before heart or respiration show any change.

3. That the Esmarch chloroform mask is superior to any other for ether as well as for chloroform.

4. That the method described requires less anesthetic and a shorter time for induction of narcosis.

5. That patients quickly revive when given fresh air, without the use of drugs.

6. That anesthesia should be more thoroughly taught in our medical colleges and hospitals.

In order to economize space the following classification has been condensed as much as possible, the various operations being grouped together according to the regions of the body.

Among the minor gynecological operations each patient had two or more operations, but only the most important is enumerated below:

Abdominal sections for appendectomy, - - - - -	104
“ “ “ excision ovarian cysts, - - - - -	24
“ “ “ ovariectomy, - - - - -	6
“ “ “ excision pyosalpinx, - - - - -	39
“ “ “ “ extrauterine pregnancy, - - - - -	8
“ “ “ Cæserian section, - - - - -	1
“ “ “ myomectomy, - - - - -	5
“ “ “ hysterectomy (fibroid), - - - - -	16
“ “ “ cholecystotomy, - - - - -	8
“ “ “ inguinal colostomy, - - - - -	3
“ “ “ exploration, - - - - -	12
“ “ “ for other conditions, - - - - -	37
Herniotomy for ventral hernia, - - - - -	3
“ “ inguinal hernia, - - - - -	39
“ “ umbilical hernia, - - - - -	3
“ “ femoral hernia, - - - - -	12
Nephrorrhaphy, - - - - -	6
Nephrectomy, - - - - -	2
Nephrotomy, - - - - -	1
Hysterectomy, vaginal (for carcinoma), - - - - -	14
Amputations, - - - - -	12
Reducing old dislocations, - - - - -	4
Operations for fractures, - - - - -	15
“ “ relief flat foot, - - - - -	2
“ “ club foot, - - - - -	8
“ “ ankylosed hip, - - - - -	3
“ “ “ shoulder, - - - - -	1
Suturing fractured patella, - - - - -	2
Amputation breast, - - - - -	18
Suprapubic cystotomy, - - - - -	7
Urethrotomy, - - - - -	10
Operations for relief enlarged prostate, - - - - -	15
“ “ hydrocele, - - - - -	12
“ “ varicocele, - - - - -	10
Plastic for hypospadias, - - - - -	1
Circumcision, - - - - -	17

Removal tumors from soft parts,	-	-	-	-	-	-	-	-	32
Trephining skull,	-	-	-	-	-	-	-	-	9
" mastoid abscess,	-	-	-	-	-	-	-	-	5
Operations for cleft palate,	-	-	-	-	-	-	-	-	12
" " alveolar abscess,	-	-	-	-	-	-	-	-	6
" " epithelioma face,	-	-	-	-	-	-	-	-	12
Tonsillotomy and removal of adenoids,	-	-	-	-	-	-	-	-	9
Operations for hare-lip,	-	-	-	-	-	-	-	-	5
" " nevus of face,	-	-	-	-	-	-	-	-	7
" " actinomycosis face,	-	-	-	-	-	-	-	-	2
Plastic on face,	-	-	-	-	-	-	-	-	10
Enucleation of eye,	-	-	-	-	-	-	-	-	2
Excision tubercular glands,	-	-	-	-	-	-	-	-	46
Strumectomy,	-	-	-	-	-	-	-	-	3
Tracheotomy for carcinoma larynx,	-	-	-	-	-	-	-	-	1
Excision ganglion wrist,	-	-	-	-	-	-	-	-	3
Plastic for contracture of hand,	-	-	-	-	-	-	-	-	3
Lengthening of tendons for contractures,	-	-	-	-	-	-	-	-	7
Excision of tubercular joints,	-	-	-	-	-	-	-	-	18
Stretching sciatic nerve,	-	-	-	-	-	-	-	-	1
Gunshot wound,	-	-	-	-	-	-	-	-	2
Removal foreign body from leg,	-	-	-	-	-	-	-	-	1
Morton's operation for metatarsal neuralgia,	-	-	-	-	-	-	-	-	6
Operations for osteomyelitis,	-	-	-	-	-	-	-	-	21
Removal of floating cartilage,	-	-	-	-	-	-	-	-	3
Operations for anal fistula,	-	-	-	-	-	-	-	-	31
Removal hemorrhoids,	-	-	-	-	-	-	-	-	44
Minor gynecological operations,	-	-	-	-	-	-	-	-	165
Excision coccyx,	-	-	-	-	-	-	-	-	2
Resection ribs for empyema,	-	-	-	-	-	-	-	-	6
Reduction hernia (taxis),	-	-	-	-	-	-	-	-	1
Excision varicose veins of legs,	-	-	-	-	-	-	-	-	18
Skin grafting,	-	-	-	-	-	-	-	-	17
Excision spina bifida,	-	-	-	-	-	-	-	-	2
Incision cellulitis,	-	-	-	-	-	-	-	-	6
Operations on antrum,	-	-	-	-	-	-	-	-	4
Total,	-	-	-	-	-	-	-	-	1000

51 Lincoln avenue.

This blank is used, and carefully filled out with each case:

No.:	Date:	Sex:	Age:
Name:			
General condition and habits:			
Urinalysis before:			
" after:			
Preparation for anesthesia:			
Operation:			
Anes. begun:	Anes. ended:		Time:
Operation begun:	Operation ended:		Time:
Time for complete anes.:		Anes. and amt.:	
Method:			
Complications:			
Observations:			
Post anes. condition:			
Operator:	Anesthetizer:		

THE CRUSTACEOUS SYPHILIDE.

By A. H. OHMANN-DUMESNIL, of St. Louis.



THE various syphilides which are encountered are not only numerous in kind and in appearance, but the same one frequently presents varieties which are quite distinct from one another. It is this very diversity of appearance, as well as in distribution, which gives an added interest to the study of these lesions. And it is these varied appearances which so frequently add to the difficulties which beset the inexperienced diagnostician, or him who has not had ample opportunities to observe similar manifestations upon the skin. To him who has had experience

the integument is as easily read as the page of an open book, not only in so far as the condition which is present is concerned, but also in regard to such other points as are connected with its history, such as the duration of the disease, the efficacy of treatment, and the proper observance of such rules as should have been laid down. Rapidity of perception and aptness in observing details are indispensable to him who aspires to be a good diagnostician of cutaneous eruptions; for these qualities enable him to formulate his questions in an intelligent manner and direct to the point. In other words, there is no groping in a haphazard manner, but rather a systematic and thorough examination which cannot fail of being fruitful of good results. In addition to this, it inspires the patient with confidence and leads him to furnish many valuable little points spontaneously in his efforts to aid the physician. But unless the latter convinces him, by his manner and method of investigation, that he is thoroughly conversant with the subject in hand, the patient is prone to endeavor to lead the physician astray and thus lead to a tedious and, perhaps, unsatisfactory conclusion in regard to the case. And to suppose that medication will clear up a diagnosis is a most erroneous idea, for two reasons: the patient may not take the medicine, or take it irregularly; or the medicine may have been prescribed in doses too small, or some other condition might be present which the same remedy might benefit. This little digression from the subject proper has been indulged in for the reason that many authors on syphilis are prone to dismiss the description of a syphilide in a few lines, and their readers are left with but a confused or hazy idea of what the eruption really looks like; and yet they sometimes decry descriptions which, whilst longer, enter into details of value to him desirous of learning.

Whilst it is essentially true that the term syphilide should properly be only applied to eruptions of syphilis which are only composed of primary lesions, it is equally a fact that it has been adopted to designate any cutaneous phenomenon due to syphilis, or following in the direct path of some other one preceding that under observation. Formerly known as the

syphilodermata, that term was abandoned as being too clumsy, and to-day we have the syphilides and, by analogy, the tuberculides and leprides. It should also be remembered that the expression primary syphilide does not refer to the chancre, but, rather, to the syphilide whose elements consist of primary lesions, such as macules, papules, pustules, etc. Of course, these eruptions are secondary in character, in contradistinction to the primary lesion (chancre), or so-called tertiary objective phenomena. By bearing in mind these distinctions, not only is much confusion avoided, but a better and clearer conception of a process may be had when it is described, and details can be much more appreciated in their true relationships to any condition which is present. A study of ulcers in general is of interest, which is intensified when we oppose to them that of specific or syphilitic ulceration. This latter includes within itself a number of different varieties which I have already had occasion to take under consideration in a previous paper in this series, and to which I shall not now refer.

It may be stated, in general terms, that among syphilitic eruptions which are observed in the later secondary period of the disease, the crustaceous syphilide is not only far from uncommon, but is frequently observed in neglected cases. As might be concluded from its very morphology, it is essentially a secondary outcome or sequence of some anterior stage, and is, as a rule, a sequela of a pustular lesion or aggregation of lesions. This, however, is not necessarily the case in every example which is seen; for it may also follow and be due to small, rather shallow ulcers. In any event, the crustaceous syphilide is susceptible of being roughly classified in the following three divisions: the disseminated crustaceous syphilide; the small crustaceous syphilide, and the large, aggregated crustaceous syphilide. This last must not be confounded with the rupial syphilide, which differs greatly, both in its morphological appearance, its history, and its mode of evolution. It is unnecessary to dilate upon this form, as it has already been described in a former paper, and its distinctive features pointed out in detail. Of course, more varieties than those given above might be made; but, for all practical purposes, they are sufficient, and will aid in avoiding a confusion in the consideration of the subject by means not only of making less varieties, but of not using obscure or puzzling terms in an endeavor to increase the number of subvarieties.

The crust, in the crustaceous syphilide, is always well formed and rather thick. Its margins are rather sharply drawn and well defined. The crust is, furthermore roundish or ovalish in shape, corresponding to that of the primary syphilide from which it originated. Unlike rupia, there does not exist a surrounding ring of pus. On the contrary, the crust is closely adherent to the skin at its border. It is not as thick as the crust in rupia, and never consists of superimposed layers, as in that lesion. The color is more or less yellowish or a dirty-yellow color—never blackish or greenish, as so frequently seen in the rupial syphilide. In fact, it does not give the impression of being as dirty. The pus underlying the crust is not so abundant and is rather thick and creamy, both in consistence and in appearance. There also exists a rather fair abundance of good granulations which bleed pretty easily. If a crust be forcibly removed there will be rather free bleeding, the edges will lose a small zone of epidermis—rather narrow, it is true—and on the subsidence of the bleeding there will

follow, quite soon, the formation of another crust, which, however, will be slightly larger than that which was forcibly removed. It is not an unusual occurrence to observe this tearing off of crusts through the negligence or carelessness of patients. They will run against a table, slide on the edge of a chair, scrape the arm against the edge of a door, fence, or similar object, and thus tear off a crust. A momentary pain is felt, some bleeding occurs, and the incident passes from the mind of the subject without attracting any further attention. One of the conditions connected with this syphilide is common to other forms of syphilitic lesions. It is the peculiar penetrating, nauseating and, to some, sickening odor which is invariably present. It is impossible to describe. It must be experienced, and the impression will be lasting and such that it will be recognized upon any future occasion. It is sufficiently characteristic to merit the name of syphilitic ulcerative smell. It can be best appreciated in the ward for syphilitics in a general hospital, more especially in winter, when quarters are hot and there is little ventilation and neglected cases crowd the wards seeking, principally, food and shelter and making their unfortunate physical condition merely serve as a means to gain admission to an eleemosynary institution. For it is almost exclusively in cities, and large ones, that this class of cases are seen, although some are occasionally seen in private practice in small towns, and rarely or never in the country. The lower strata of society are the ones which furnish the examples of this phase of the trouble, and they all naturally gravitate where misery, squalor, filth and disease are most abundant.

In the disseminated crustaceous syphilide the lesions vary in size from a silver dime to a silver quarter-dollar, and are very discrete in their distribution. In fact, they are separated from one another by quite an extent of normal integument. A good example of this eruption is shown in Figure 1. The characteristic condition to which attention has been called may be quite distinctly observed in this example. It may also be clearly observed that, whilst one of the lesions is very distinctly round, the others are more irregular in their contour. It is also a matter of some interest to note the fact that the crust, in each instance, has the appearance of having been introduced under the integument for a very slight distance. This is caused by the strong adherence of the crust to its base and the effort on the part of the skin to grow centripetally. A further peculiarity which was noted in this particular case, and well shown in the picture, was the fact that all the crusts occurred on the outer aspect of the limbs and trunk. The crusts are of a moderate degree of thickness and brownish in color, some portions being quite light, differing essentially from rupia in this particular. This is a rather common form of the crustaceous syphilide, and there should certainly exist no difficulty in easily recognizing it. It is usually more or less symmetrical in its distribution, corresponding limbs or parts of limbs and analogous parts of the trunk being simultaneously invaded. When occurring upon the back, as it frequently does, the lesions are pretty equally distributed at about corresponding distances from the median line. So that, taken altogether, this form of the crustaceous syphilide may be looked upon as being symmetrical in its distribution, and the separate lesions as closely resembling one another in size and conformation. So far as subjective symptoms are concerned, they will be mentioned

later on, as these are pretty nearly the same in the different varieties of the crustaceous syphilide.

The small, aggregated crustaceous syphilide is one which differs essen-

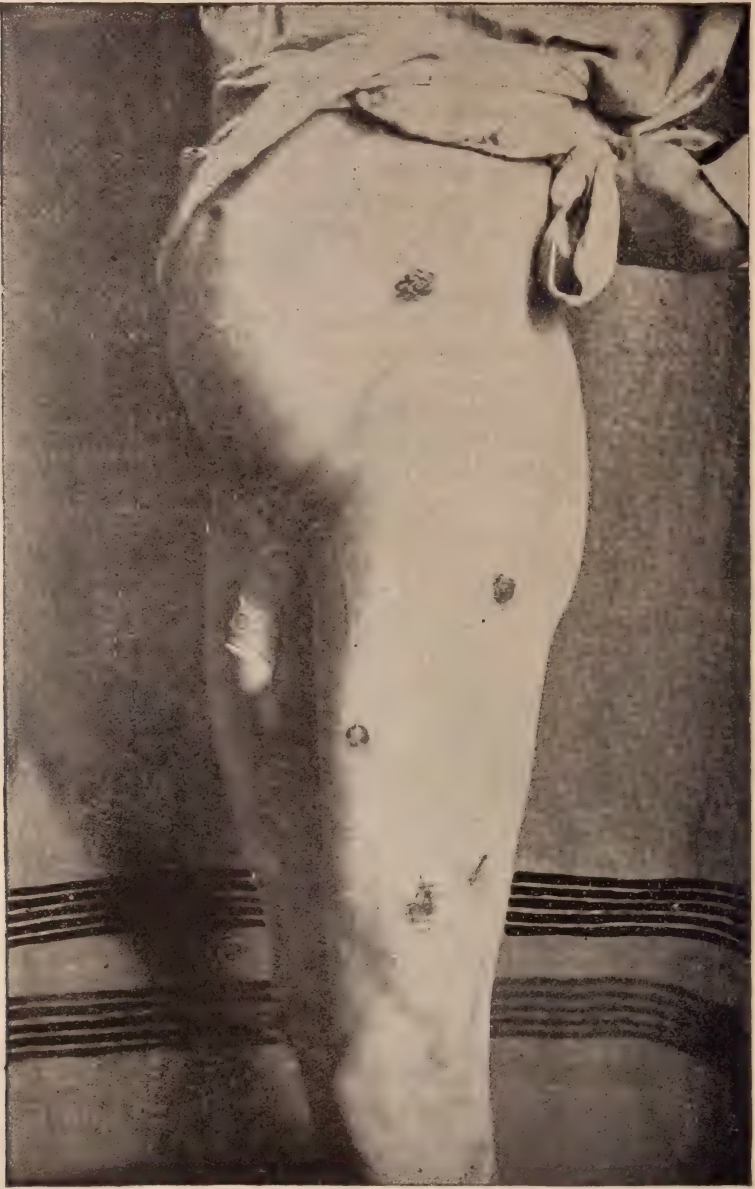


FIG. 1. Disseminated Crustaceous Syphilide.

tially from the other in a number of features. In the first place, the crusts are all quite small, this being due to the fact that they arise from small, flattened pustules which have a tendency to ulcerate superficially and

burst. As there is no spreading of the process, they naturally remain limited; and the crusts do not become large, seldom exceeding the size of the finger-nail, and more often being that of the nail of the little finger. A good example of this form is shown in Figure 2. It is true that but few



FIG. 2. Small Aggregated Crustaceous Syphilide.

crusts are shown in the picture, but this is due to the fact that the patient was ordered to wash the lesions, soften the crusts and remove as many as possible, in order to show with greater clearness the bases upon which they were implanted. Their tenacity is well exemplified in a number of the

lesions which show portions of crusts still adhering, and a number of small ones which have not been separated at all. In the second place, the lesions form a distinct patch; they are not distinctly discrete in their distribution, although far from confluent. They rarely, if ever, do run into each other to form large lesions, but leave very small unaffected portions of integument separating the one from the other. In other words, each one is a distinct lesion, possessing its own individual features, which, however, are shared in by every other one in the patch. In the case which is shown the patch is symmetrical, but this is not necessarily the case in every one. A patch may be located on one side or the other, various circumstances of a more or less factitious nature contributing to this, such as friction, irritating substances like chemicals, foreign bodies, clothing, etc., or scratching brought on by various causes. This is one of the forms apt to be mistaken for a dermatitis due to any one of the causes enumerated or to

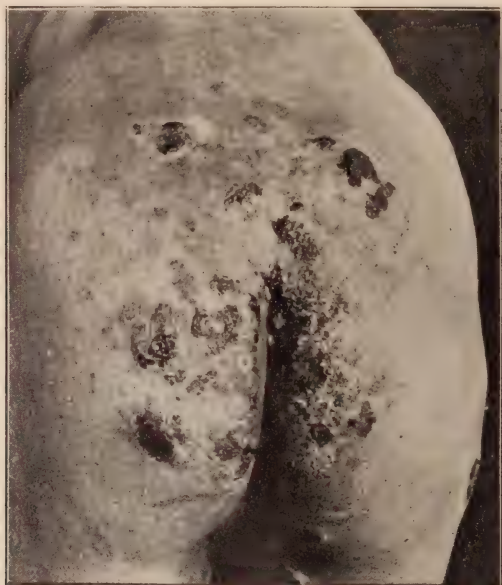


FIG. 3. Large Aggregated Crustaceous Syphilide.

parasites; and, for this reason, care should always be taken to look for concomitant symptoms confirmatory of the syphilis, not forgetting the history of the case.

The large, aggregated crustaceous syphilide is marked in its appearance, and a form which should not be difficult to recognize. It bears certain marks about it which will awaken suspicion even in a layman's mind. To begin with, the crusts are well marked, as large or larger than the thumb-nail, situated close to one another, and, very often, giving the appearance as though a lesion had developed centrifugally. A good representation of this eruption appears in Figure 3. The point to which reference has just been made is well illustrated in the outer and upper left hand lesion on the left buttock. There are others also in which the crusts are somewhat thicker at or about the center, and not quite so much at the

periphery. As may be observed higher up, on the back, the crusts are not quite so thick. This is easily explained by the fact that the pressure exercised by the sitting posture causes a corresponding thickness in the crusts. It is also more than probable that the pressure on the buttocks contributes in no small degree to the appearance of the crusts as well as to their becoming aggregated. The lesion on the right thigh, just below the natal fold, shown in the figure, was, doubtless, due to the pressure of the front edge of the seat of a hard chair. Some other superficial lesions are to be noted; and they, in time, would have shared in the nature of the others, had they been subjected to the same proximate exciting causes. This variety of the crustaceous syphilide is very apt to manifest itself in those who are careless in the care of their persons; much more so than in those who are cleanly. And whenever such a case is seen, it may be pretty safely concluded that the individual so affected was not only not cleanly in his habits, but careless in every other respect: careless in personal as well as moral and social habits; addicted to drinking, shiftless, and engaged in indiscriminate venery.

So far as the subjective symptoms of the crustaceous syphilide are concerned, it may be stated, in general terms, that there are none deserving of special mention. No pain whatever is experienced, and none elicited even when pressure of a moderate degree is exerted on a lesion. Of course, when a crust is forcibly removed designedly or by accident, there is a short, sharp pain which subsides in a few moments. There may be subjective sensations present in any given case, but they are dependent upon the general syphilitic process and not upon the eruption. So that it may be stated that the crustaceous syphilide has no subjective symptoms beyond those produced by accidental causes, as already mentioned above. This is a very useful point to remember, as the subjects of this eruption are inclined to malingering, and apt to complain of many symptoms which do not exist, in order to excite sympathy.

It may be laid down as a pretty nearly fixed rule that no other syphilitic eruption is to be found upon the integument when there is present any one of the forms of the crustaceous syphilide which has just been described. It is not rare, however, to note instances in which a few papules or pustules will show themselves at some point distant from the crusts. However, these make their appearance suddenly and perhaps remain stationary for a variable length of time and disappear as suddenly as they appeared. This concomitant eruption has no particular significance except as a sign that the syphilitic process, whilst it has been in an apparently dormant state, was lying quiet and was merely gathering new forces to manifest itself by more marked and deeper involvements than it previously exhibited. As has already been stated above, the crustaceous syphilide is never one of the early manifestations of syphilis, but is rather evidence of a late effort on the part of the process to manifest itself, and is usually an indication of the fact that treatment has either not been active enough or not prolonged for a sufficiently long period of time. This, again, may be due to either one or another cause. The patient may think that he has been under treatment for a time which he deems long enough and be led to neglect any further attention. Or his medical attendant may judge that he has been sufficiently medicated to justify his discharge

and a total suspension of all treatment. The patient thrives apparently, for a time, in his fancied security until an explosion occurs upon the cutaneous surface, relying upon the idea that the pustular outbreak which is present will disappear spontaneously and successfully. Relying upon this idea he suddenly awakens to the fact that his trouble has completely changed in its appearance. It is then that alarm is felt and assistance sought to relieve the peculiar trouble whose true cause is, unfortunately, not appreciated to that extent which it certainly deserves.

By keeping in mind the characteristics of the lesions which present themselves a certain adequate idea may be formed of the age of the trouble, even though the history be inexact and unsatisfactory. Even some conception of the treatment which has been pursued may be arrived at, although the account given is both inadequate, incomplete, or obscure. It should never be forgotten that the accompanying eruptions play but a small or almost insignificant part in the determination of the chronology, and the supposition that these lesions (papules, pustules) argue a recent attack should not be entertained. A careful examination of them will show that they do not present the characteristics observed in recent syphilides. Moreover, it should not be forgotten that papular, pustular, or tubercular syphilides will occur even in cases of so-called tertiary syphilis. These are known as relapsing syphilides, and they generally possess one peculiarity which can be easily verified upon examination. They are indurated, and a single one might lead to an error, more especially if its secretion was scanty in quantity. It might possibly be mistaken for a chancre and the case looked upon as one of reinfection. This error has occurred so frequently that it has served to throw doubt upon a number of cases which have been claimed to be syphilitic reinfections. Cases of simple ulcers with a rather thick crust and a doubtful history have been mistaken for the crustaceous syphilide. In these the patient supposes that because he has had a "sore" upon his penis he had syphilis; or some ignorant or unscrupulous medical practitioner has told him so. A two-weeks' course of treatment has cured (?) his disease, and makes the diagnosis unquestioned in his mind. Again, a gummy ulceration will be followed by a crust; and whilst the patient can give a clear history of lues, the physician may fail to recognize the true nature of the lesion with which he is dealing, and meet with more or less disappointment in its treatment on this account.

The treatment of the crustaceous syphilide is one which should be pre-eminently active to prevent the possibility of destructive complications, as these are very likely to declare themselves at any moment. To begin with, the patient should be placed under the best hygienic conditions, have good food, and be denied alcoholic stimulants. Then the internal treatment should be such a one as is adapted to the conditions which are present. A good working plan to follow would be one about as follows: Give the patient mercurio in doses of twenty drops in water, after meals, and gradually increase to thirty drops, if this dose can be tolerated. If not, give the dose which can be borne without untoward symptoms, and continue the entire course of this remedy for two weeks. Then give iodide of potassium in the following manner, as shown by the following formula:

℞ Kali iodidi..... ʒi
 Aquæ destillat,
 Essence pepsini.....aa ʒj
 M. Sig.—One teaspoonful in water or milk after each meal.

This should be gradually increased in strength until the patient takes a drachm of the iodide at a dose. The course of the iodide should last two weeks. After this a rest of a week may be taken and the former administered, the two being alternated until an impression of a marked character has been produced. After this a rather large period of rest is advisable and iodide of potassium in scruple doses, thrice daily, given intermittently until no fear exists of a relapse.

Locally, the treatment must at first be directed to the separation of the crusts. For this purpose mercurial ointment may be used or an oily application made as follows:

℞ Hydrarg. oleat., five per cent..... ʒ ij
 Ol. amygdal. dulc..... ʒ iv
 M. Sig.—Use locally twice a day.

A much more rapid method is that by employing bichloride poultices, 1 to 1000. An aqueous solution is taken in which gauze is soaked and placed on the lesions, rubber tissue being applied over it. The crusts having been separated, the base of each one is washed twice daily with water and sapodermin and nosophen powder applied. This will secure quite a rapid result. The sapodermin being a soap containing albuminate of mercury is in itself curative in its action. However, should an ointment be preferred, the following will be found a rapid promoter of healing, more especially if applied after a preliminary cleansing with sapodermin:

℞ Hydrarg. oleat., ten per cent.
 Ung. hydrarg. cinerei.....aa ʒj
 M. Sig.—Apply once daily.

The prognosis in these cases is generally a good one, as they heal promptly under proper treatment and care. The proper management is always of prime importance and should never be neglected.

It would seem that investigators concerning the properties of the X-ray have much to discover, for, from recent discoveries, its utilitarian field is destined to be broad and beneficial. Experiments by M. M. Mal-deney and Thouvenin, brought before the Academie des Sciences, of Paris, France, prove that the Roentgen rays can promote the germination of seeds. In the case the convolvulus arvensis, the seeds, when exposed to the rays for one-half an hour daily, germinated on the third day. When screened from the rays, they only germinated on the sixth day. Curiosity is here aroused as to the possibilities of these rays in hastening the germinating properties of other varieties of seeds, and its influence on plants as hastening development.

MAN'S INHERITED MARTYRDOM—A FITFUL STUDY OF DEGENERATION.

By WARREN B. OUTTEN, M. D., of Saint Louis.

[CONTINUED FROM THE JANUARY ISSUE.]

CHAPTER VIII.

THEO CELSUS.—Vice may, perhaps, enhance our pleasure; curses with woe our progeny. 'Tis a racking thought that man through vice debases not only his own destiny, but for ages exercises deleterious effects and practically makes degenerates through a long period of posterity. A single vice may become, in time, a multiphased murder. Nay, he that would be good and virtuous, should study heredity. A murderer is merciful in comparison with vice; for a single life satisfies the murderer, while scores do not satisfy vice. A drunkard or a libertine begets a diseased and degenerate progeny. Heaven give virtue liberty; but let vice be celled.

TES AURE.—Aye, how strange a thing this fear is in a besetted mind! Nay, the very idea of being in dread of a needle! Such fear, indeed, were folly, if it were not infirmity. Fear in such minds seems stronger than in all else. Here, it is more than tyrant, for it hath no solace in understanding. For these men have not been hurt, yet they fear. For it truly seems that this fear is but engendered by a hurt ancestor. Thus it is that fear becomes to them as much of an heritage as their appetite. Here, fear is, indeed, a torment—yea, a tax that conscience pays to an inherited infirmity. For it seems nought but impulse void of common sense. Anon, this fear is not cowardice, for it comes without reflection. Thus it is that fear becomes a weapon that paralyzes the will. Nay, here fear becomes an ill-timed medley. True, indeed, for varied capricious wonder, what does not an enfeebled and helpless brain offer? To me the brain is the focus of earth's and man's doings and experience, both in health and disease.

PARA BLAR.—I pray thee, sirs, think me not impatient, but our progress lags. In impulse's nervous exhaustion—it were better called impulsive besetments—I learn that where the will is beset by indecision—that is, where the will wants settled purpose, but has a lack of determination, and is wavering and irresolute—we have what constitutes one form of impulse's besetment. Another form is where the will is beset and controlled by fear; while the last form is that where a mind is filled with irresistible tendencies, and is incapable of successfully resisting them by exercise of the will. Thus, we may find an irresistible tendency to steal, to drink, to kill another or others, or kill self. This seems to be their involuntary, but very nature.

BLOM BLONG.—"Nature," say you! It would seem that this infirm nature is past all teaching, and will not be educated. Nay, thou canst not expel its nature. Aye, to me it truly seems that here nature and wisdom are at outs. Even the ancients used to say: "You may dig up nature with a fork, yet it will ever return."

THEODORUS.—Truly, interest should center here. For these besetments of indecision of the degenerate are but spoken of by Regis "as the

insanity of doubt." Now, then, the mind thus affected with the besetment of indecision has first fixed ideas which it cannot banish. They come in the muse of query, under which the mind hesitates, irresolute. Yet doth it ever soulfully strive to solve its doubt. Aye, a doubt withers that degenerate's soul when beset by indecision, for doubt never seems the key to his knowledge; surely, doubts constantly are his but to err. The beginning and course of his soul's doubt appear to end in his perpetual misery, for his doubt never reaches decision. If doubt can make a well man weary, what can it not do for a degenerate, whose mind is beset by indecision? It surely courts nought but madness. Doubt in the mind is not only the shadow, but the substance of the mind's indecision. Time, torment, and torture mark the mind's course when beset by indecision, for they are but the prevailing and ruling ideas of the condition.

Thus the degenerate mental philosopher has a besetment of indecision. He is unceasingly tormented by notional and theoried questions. He ponders by day and by night in ceaseless and useless mazy worry concerning Deity, and thus gets pained mental stress. He racks his being about heaven: whether it exists or not. What is heaven? Where is heaven? He agonizes his mind by a study of hell; and in endless vagary he studies the soul. Nay, no secret nor obscure problem in nature but courts his worry. His boundless mental officiousness unceasingly begets agony. "Why" and "wherefore" to him becomes but his mind's punishing demons. His is a helpless, weakened brain, and may turn agnostic. Yea, a soul's palsied agnosticism! Question, irresistible! Continuous, agonizing question, which plunges them into the direst depths of torture. Here is the worry of the "why." The agony of the "wherefore" is making in such impotent, nugatory, degenerate skeptics.

THEO CELSUS.—If some one had said that degenerate philosophers have said more mad things than have fools, I should feel inclined to agree with him. Perchance, 'tis because they think and talk o'er a wide range of theme. The deepest philosophy but leads to helplessness. The distinction between a deeply idead philosopher and the helpless degenerate agnostic is certainly close. The hair-spun mind may doubtless exist with health, but surely it touches disease.

HEINE LANIUS.—Aye, thy degenerate philosopher, beset with indecision, is mystery eventuating in madness. For out of his "yes" and "no" comes his mind's trouble. True it is that too much doubt may blight the mind; and Story tells of doubting mind that boasts of many martyrs.

The greatest of all fools is he that would know too much. While many hold a world in mind, they yet have nought to rule it. In these degenerates need and motive make infirmity. Aye, true, they talk like wise men, but they act worse than fools. They are eternal students of life, but they know not how to live. Healthy men live but to learn, while these live but to doubt. Aye, it is said they spend all their early lives in letting down empty vessels into empty wells, and fritter away their old ages in trying to draw them up again. They are the fated frailties of a degenerate soul acting under stress of heredity.

THEO CELSUS.—And now, forsooth, here strangeness wells! Yea, behold a modern worrier, an active doubter, a peccant degenerate called the realist. He, the degenerate realist, is beset with irresistible and tena-

cious desires to investigate and elaborate the lowest and coarsest details of objects. He studies all that lives in the realm of naked vegetative function. His doubt, his besetment of indecision, is mainly in the direction of the bestial and carnal. The differences of sexes, the beard, the naked bareness of things; which should be considered and spoken of only in due and proper form. The realist is one of whom perversion is a part, for his mind at all times seems to revert to the realm of the perverted. At times he defiles even mud, for his half knowledge hides its virtues but to adorn its filthy faults and defects. He is a sort of mental tumble-bug, content amidst questionable or even base environment. Yea, indeed, it doth seem to me that the brain of a realist is a sort of mental unreliable tank, wherein good ideas are often poured, seldom to abide over night without coming forth naked and reeking with doubtful suggestion. The realist proclaims that an ounce of nude reality is worth a ton of well-clothed virtue. He thinks that the world revels in nudity, as he himself does. Truly, he resembles the man who, upon seeing the skeleton of a donkey, seriously observed: "Ah, 'tis true, we are fearfully and wonderfully made!" Yea, he is, indeed, more asinine than angelic; more nakedly natural than noble!

HEINE LANIUS.—Welladay! Lo, and behold! the sun shines for the realist, and is not dimmed. The moon placidly views him along with the rest. The stars twinkle for him; for twinkle they must. The sea rolls and sobs for him, whether he cometh or not: and the daisies wait longingly for his feet, as they do for those of the sweetest and best. Yea, the old world rolls for him, for it would be a poor world if it did not roll. Nay, thou canst not change the world's nature, nor the nature of this fly-speck-man, for thus was he made, and is, therefore, not to be blamed.

THEODORUS.—Aye, life is the sum of qualities that make up a thing. What, as it is, that makes man what he is. The degenerate realist is made from inherited defects. His vulgarity arises from a natural obtundity of sensation in a special direction; an inherent tendency, which impels him to act in harmony with the vulgar. Vulgarity can only be vulgarity by being intrusive; robbed of its display, it hath not meaning nor effect. The realist is born without refinement; the common grossness of his nature estimates all things as upon this plane. Made, as he is made, he would disenchant the refined beauties of all things. In the wayside pool he sees but the mud beneath; nor can his realistic eye look deep enough to view beyond the glorious stars reflected deep from heaven's spangled firmament on high!

[TO BE CONTINUED.]

HISTORICAL SKETCH.

BOERHAAVE, 1668-1738.

By JAMES MOORES BALL, M. D., of St. Louis.

Nearly one hundred and fifty years have passed since the death of Hermann Boerhaave, one of the most illustrious physicians of ancient or modern times; a man whose fame as a medical teacher was equaled by no one in his day; a physician of such extensive reputation that a Chinese mandarin, addressing a letter to "Boerhaave, in Europe," received an answer; a man of such beauty of character that the populace loved and respected him; a giant in intellect, who has left an impress on the history of the medical profession.

Educated in logic, ethics, metaphysics, rhetoric, geography, mathematics, modern languages, Hebrew, Chaldee, philosophy and theology, Boerhaave was originally intended for the ministry, but by stress of circumstances became a teacher of mathematics, and was advised by the burgomaster of Leyden to join the study of physic and philosophy to theology. He followed anatomy with zeal, not only studying the works of Vesalius, Fallopius and Bartholin, and witnessing the demonstrations of Nuck, but often made human and comparative dissections. He applied himself assiduously to the study of the works of Hippocrates and Sydenham, and in 1693 received the degree of Doctor of Physic, from the University of Harderwick, and shortly thereafter began to practice. In 1701 he began his career as a medical lecturer, and delivered an inaugural discourse in which he set forth Hippocrates as a model to be followed by all students of medicine. Two years later the chair of medicine in the University of Groningen was offered to him, but Boerhaave preferred to remain in Leyden. Indeed, he had no occasion to leave the Athens of the Netherlands, for the curators of the university increased his salary and promised him the chief professorship in medicine when it should become vacant. It was about this time that he publicly presented the claims of mechanical reasoning in physic. His name must be regarded as one of the chief names of the Iatro-mechanical School of Medicine. For forty years Boerhaave was one of the great lights of the Leyden medical school. After 1718 he taught the theory of medicine, the practice of medicine, botany, chemistry, and clinical medicine in separate courses—and this was only a small part of his labors. He found time to write numerous books, to attend to an enormous practice, and to learn almost everything that was known to science in his day. No wonder the Royal Society of London and the Academy of Paris requested that they might add his name to their lists. He seemed able to grasp everything in learning and to do everything better than any predecessor or contemporary; yet he was not great as a botanist, a chemist, a historian, or as an anatomist. With a wonderful memory and the energy of a dozen men, he set the world ringing with his fame. He acted as a balance-wheel, trimmed here and pruned there; attempted to reconcile the differences between the vitalists and the mechanical doctors; commended the study of the Father of Medicine to all physicians; issued with

Albinus an edition de luxe of Vesalius; wrote the *Institutions of Medicine*, which became the text-book of Europe; produced a volume of *Aphorisms*; compiled an *Index of Plants in the Botanic Garden of Leyden*; tried to deliver chemistry of some of its errors; wrote on venereal disease, on *materia medica* and remedies; and delivered a masterly oration on the life of Albinus. In 1731 there appeared his final work, *Elementa Chemicæ*, in which is first mentioned the substance since named urea, crystallized out "in saline globes of a particular kind that are perfectly distinct from every other salt, not fœtid, not alkaline, but very evanescent, the native salt of urine." In this work he states that compressed air prevents fermentation, and that borax is an antiseptic. The success of his books was due, not so much to new facts or theories as to their simplicity and clearness and to the eclectic character of his teaching. He read the writings of all writers of all ages, and analyzed, illustrated and commented upon their works. "He soon gave to the world his *Institutions of Medicine* and his *Aphorisms*, two of the most concise, and at the same time comprehensive, works that science had yet produced, and which, for variety of matter and extent of views, had been surpassed only by those of the illustrious Bacon."¹ If Boerhaave had begun by collecting and classifying facts and data, in place of beginning with conclusions, his writings would have been models of true reasoning, as they are unquestionably masterpieces of learning, order and clearness. The medical school in which he taught has lost its renown and now lives chiefly in an illustrious past. How thoroughly Boerhaave was wedded to the mechanical school may be judged by his idea of physiology. He says: "Let anatomy faithfully describe the parts and structure of the body; let the mechanician apply his particular science to the solids; let hydrostatics explain the laws of fluids in general, and hydraulics their actions, as they move through given canals; and lastly, let the chemist add to all these whatever his art, when fairly and carefully applied, has been able to discover; and then, if I am not mistaken, we shall have a complete account of medical physiology."

He was an eclectic. "At present," he says, "physic may be learned without adhering to any particular sect, by rejecting everything that is offered without demonstration, and by collecting and retaining only what has been offered and approved to be real truth, both by the ancients and moderns." Like other great men, Boerhaave sometimes contradicts himself. In speaking of the archæus of Van Helmont, he says: "One might as well confess his ignorance of the cause of any action, as attribute it to some imaginary and unknown being, of whose existence, nature, actions, and manner of operation, we have not the least knowledge or assurance." Yet in another place I find him saying that "the physician operates by his skill, not upon the disease, but upon life, which Van Helmont called the archæus."

One of his favorite therapeutic maxims was "*contraria contrariis curantur*"—contraries are removed by contraries. This he explains as follows: "Not by such means as are directly opposite or contrary to the present disease, but by such remedies as will afterwards manifest their effects contrary to the cause of the disease." Further he says: "Paracelsus

¹ Cabanis: *Sketch of the Revolutions of Medical Science*, p. 156, London, 1806.

and Van Helmont ridicule the maxim *contraria contrariis curantur*, and point to the fact that a frozen man would be killed, not cured, by exposure to the influence of the fire; cold, a similar, being the proper cure. But they do not reflect that in this case remedies which cure or relieve cold by renewing heat must produce an opposite effect to cooling. In the same way, when we want to cool fever, we do not give cold water, but such drinks as will produce cold as their ultimate, not their primary, action." Here Boerhaave admits the opposite effects produced by the same curative agent, owing to the difference between its primary and secondary action. This is the fifth time in the history of medicine that we find great men announcing the doctrine *contraria contrariis curantur*. The first was Hippocrates, who taught that if a man were too lean we must fatten him, and if too fat we must make him thinner. The second was Galen. He said that disease comes from excess of moisture, dryness, heat, or cold. Medicines are in their nature moist, dry, hot, or cold. We are to give hot remedies in cold diseases, etc. The third annunciator was Paracelsus, who claimed to possess an arcanum or specific opposed to the disease. The fourth time was when the chemists announced that disease comes from excess of an acid or an alkali; and is to be treated by the contrary. Finally Boerhaave says: "Give a medicine whose ultimate action is curative of the cause of the disease, whatever its immediate action may be. If a hot drink produce perspiration in fever, then give a hot drink, for that will cool the body, which is what we want to do. If the primary action of opium is constipating, and of rhubarb laxative, and the secondary the reverse, according to the principle of reaction, then opium may be the remedy in constipation, and rhubarb in diarrhœa." He also recognized specifics. This method "removes the cause of the disease by the administration of such things as are known to be efficacious only from experiment."

Boerhaave himself has practically been forgotten, for he founded no system and made no great discovery; he left, however, many adherents, and some of these, his pupils, made much stir in the medical world. Among them were Cullen, Gaub, Haller, de Haën, and Van Swieten. **Hieronymus David Gaub (1705-1780)** was a professor in Leyden and attained great celebrity as a teacher. He is remembered as having been the author of the first complete work on the exclusive subject of general pathology. He belonged to the Dynamic School. He held that sickness is as natural as life and death, and had great confidence in the reparative power of nature. He maintained the existence of a "vital force," which has its seat in the solids. He spoke of tension and feebleness, omitting laxity, as among the defects of "fibre," and these defects may run into irritability or decline into torpor. Cullen deserves more space than can be given here, and will be mentioned later; the same is true of Haller. De Haën and Van Swieten belong to the Old Vienna School.



NEW YORK LETTER.

At a recent meeting of the New York County Medical Society, held December 26th, Dr. Ramon Guiteras read a very interesting paper entitled "Some Observations on Stricture of the Urethra." In his paper he speaks of external urethrotomy operation as follows: "External urethrotomy can be performed in a number of ways, but it should be made upon the Gouley tunnelled catheter, if possible. This instrument, when of small size, can usually be passed into the bladder without difficulty, and then, the patient being in the lithotomy position, it is easy to cut down through the perineum into the groove on its convexity and along it into the bladder, after which the opening can be enlarged and a perineal tube inserted. If the stricture is too narrow to allow the guide to enter, but a filiform bougie can be passed, the Gouley catheter can be forced over the filiform into the bladder. The escape of urine through the catheter shows that the instrument has passed successfully, when it can be cut down upon as before mentioned.

"The combination of internal and external urethrotomy in both deep and anterior strictures in the same individual is interesting. Most surgeons first pass a guide through the urethra, and then cut down on the convexity through the perineum, thus opening the deep stricture first; after which they withdraw the Gouley guide, allowing a grooved director to remain in the perineal wound with its point-end in the bladder. The Otis urethrotome is then pushed down until its point rests in the groove of the director, and an internal urethrotomy is performed. In this way I have seen a number of corners left in the perineum, around which one has to pass a sound in order to enter the bladder. In other words, there seems to be an unevenness in the deep urethra after the operation.

"It appears to me, then, that it is better in these cases to first pass a filiform or the guide of a Maisonneuve through the stricture and then perform an internal urethrotomy by means of this instrument. This would open the strictured portion to the size of an 18 French, after which a good-sized perineal guide can be passed through the urethra and an external urethrotomy performed upon it. In this case we are pretty sure of having an even urethra from the meatus to the bladder, without any steps in the perineal portion. This good-sized guide can be passed over the same filiform as the Maisonneuve, if desired. If, after this, it is thought best to make the anterior urethra still larger, an Otis urethrotome can be passed down over the filiform in the same manner and the anterior stricture can be still further enlarged. In this way one can be quite sure that the different portions of the urethra are evenly connected.

"If no guide or filiform can be passed through a stricture—that is to say, if the stricture is impermeable—and yet the patient is able to pass urine, it is advisable to put him to bed for two or three days, to give him hot sitz-baths twice daily and a diluent, and at the end of twenty-four hours to try to pass a filiform or a very small gum elastic bougie through the urethra. In almost every case this can be accomplished, and then an operation can be performed as described. I have seen cases where the

urethra was so tight that not even the smallest eye-probe could be introduced through the anterior urethra, and yet, after twenty-four hours of this treatment, an instrument could be passed.

"If, however, the patient cannot pass any urine, and retention be present, with an impassable stricture, the question of operative procedure is an interesting one. The probabilities are, in a case of this nature, that the attack of retention is an acute one, and that a hypodermic injection of morphine in connection with a hot sitz-bath will allow the patient either to pass some water or will relieve the condition sufficiently to allow an instrument to be passed; and if not, that a couple of hours' rest, with poultices over the perineum and pubes, will enable this to take place.

"In case, however, that at the expiration of this time the patient cannot urinate and the smallest catheter cannot be passed through the urethra, the question between an immediate operation for the relieving of the retention or a suprapubic puncture, and then, after the congestion has been removed, trying to relieve the bladder, is one of great interest. I am inclined to favor suprapubic puncture, with rest and hot applications, as I think by this means the congestion can sometimes be sufficiently reduced to allow the patient to urinate or else to be catheterized. Sir Henry Thompson, in a large genito-urinary experience—probably the largest that any surgeon has ever had—states that he has never had but six cases where he could not pass an instrument into the bladder, and that four of these were due to stricture.

"If we are successful in passing a small instrument into the bladder, we can perform continuous dilatation, or else operate immediately by the method already outlined. If, on the other hand, an impermeable stricture with retention is present, and it is not considered advisable to wait and postpone the operation, trying palliative measures in the interim, it will be necessary to operate without a guide. In that case I can recommend an instrument of my own, called the grooved perineal canula, which, when inserted through the perineum, can be made to enter the prostatic urethra; and an incision along its groove will open this part of the canal, when the instrument can be pushed into the bladder and its presence confirmed by the escape of urine. It is well to perform such an operation in connection with a Gouley grooved tunnelled sound passed into the urethra, as otherwise it would simply be an improvement on the Cock's operation. It would be well, therefore, to pass a tunnelled guide down the anterior urethra as far as the stricture, open the urethra in the perineum on the guide, pass a traction suture through the urethra on either side, then turn the guide, allowing its beak to come out through the opening, thus holding it open from three sides, and afterwards try to dissect down through the stricture. If not successful, pass the grooved perineal canula through the perineum into the prostatic urethra where it joins the membranous, open the canal by running a knife along the groove on its upper surface, then pass a straight grooved director along it into the bladder; then dissect down from the beginning of the strictured portion between the sutures to the grooved director in the perineum, where we will have a clear path from the external to the internal meatus. After the operation perineal drainage should be kept up by a tube for a week, and sounds passed every two days."

In the discussion that followed, Dr. Eugene Fuller referred to the pathology of strictures, speaking more particularly of the condition of fibrosis and that of round-celled infiltration. In the first there was no question but what good would follow the stretching by dilatation; in the latter condition he thought best to leave it alone, but to give the patient cod-liver oil, etc., and get him in good condition, when, at the end of a year, nothing will be found.

In regard to the impassability of stricture, Dr. Fuller referred to Buxton Brown's belief that no stricture is impassable. Dr. Brown says one should not try to get through the stricture before a class, but in a quiet place. He now had a case in the hospital of a man who said he had a difficult urethra to get through. Dr. Fuller tried to get in and failed at first; he found it riddled with false passages. The man was asked to do the operation, which he did, using hay-wire; *i. e.*, wire used to bind hay. He will be operated upon, the hay-wire being used as a guide. False passages are often mistaken for strictures; in these a large sound will pass where repeated efforts to pass a small one has failed.

Dr. Charles H. Chetwood recalled the definition of a true stricture, which was a change in the urethra produced by inflammatory or cicatricial conditions. Spasm of the urethra should not be called a true stricture. He advised that treatment of stricture should be by the most conservative means, which, he believed, to be dilatation. Dr. E. L. Keyes said, years ago, that all strictures that could be dilated should be dilated. The sounds he preferred were those of a double taper and which were smooth, these causing less pain. In treating deep strictures, usually found at the bulbo-membranous junction, he advised external urethrotomy on account of its meeting the requirements of a sepsis and drainage; for good drainage we must have a perineal opening.

Dr. Ferd. C. Valentine believed Oberlander's dilator to be the best of dilating instruments when the stricture was beneath 20 French.

Dr. John P. McGowan, of the New York Naval Reserves, the gallant surgeon of the *Yankee*, was recently the recipient of a beautiful loving cup from his numerous medical friends. Many speeches were made during the evening (Thanksgiving eve), but especially the scholarly address of Dr. John P. Aspell was in great harmony with the object, aim and purpose of the gathering. The night will long be remembered in medical circles, but especially in the heart of the worthy recipient of the cup.

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MEDICAL NOTES.

Erysipelas.—Of all the numerous applications which I have tried, however, I have found nothing which has given the universal satisfaction afforded by the following prescription, or something equivalent to it:

Resorcin (or naphthaline).....	5
Ichthyol.....	5
Mercurial ointment	40
Lanoline.....	50

The proportions of these ingredients may be varied, and I often increase the amount of ichthyol, especially when the skin to which it is to be applied is not too tender. The affected parts are anointed with this, and then covered with oiled silk or some impervious material, simply to prevent its absorption by the dressings; the parts are then enveloped in a light dressing and bandaged. Whenever I have to deal with local evidences of septic infection, I use an ointment essentially the same as this, and have learned to count on it with more reliance than anything that I have ever resorted to. As the disease becomes mitigated the ointment can, if desirable, be reduced with simple lard, and may be discontinued when local signs have disappeared.

DR. ROSWELL PARK.

Podophyllin.—The chologogue properties of podophyllin has been estimated to be greater than of any known substance. The active principles contained in this drug are two substances: crystalline podophyllotoxin and podophylloresin; both are excellent laxatives in small doses without secondary constipation. Only the podophylloresin exerts a true chologogue effect.—DRS. MACKENZIA AND DIXON, *Edin. Med. Journal*, November, 1898.

An Adjuvant to Quinin.—It has been a matter of common experience, especially in the treatment of malarial fevers in the tropics, that the action of quinin appears to be promoted by the simultaneous administration of various spices. The remarkable farrago of compounds in Warburg's tincture, the original formula of which is said to have contained seventy-six ingredients, powdered snake skins among the rest, doubtless owes much of its efficiency in chronic malarial disorders to its predominant proportion of spices. I have been accustomed, therefore, for many years to prescribe powdered ginger along with quinin, in equal quantities, and I have felt convinced that I can get along with smaller doses of the quinin itself by adding the ginger, in the treatment of our ordinary intermittents. In a number of cases I add pulverized capsicum, one grain to four of quinin. I have known ginger alone, administered in free doses in hot milk, to break up chronic ague of the quartan type, when quinin had conspicuously failed.—DR. WILLIAM H. THOMSON, *Medical News*, December 17, 1898.

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is a hypnotic of tried and approved value. It possesses undoubted advantages over other hypnotics in Prompt Effect, Reliable Action, Freedom from Evil After-effects and General Superior Therapeutic Value, as confirmed by contributions to current literature by H. C. Wood, W. Hale White, John V. Shoemaker, Chas. L. Dana, Chas. H. Steele, John Aulde, S. V. Clevenger, and many other authorities.

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The phosphorus, being in its lowest state of oxidation, is free from irritating properties, and acts as a powerful hæmatogenic, thus counteracting the pathological action of the quinine upon the blood, while the tonic, anti-periodic and germicidal action of the compound is superior to that of the sulphate quinine.

Hypo-Quinidol (Gardner), being very soluble and deliquescent, is only put up in the form of pills (1 and 2 grains), protected from atmospheric oxidation and deliquescence by an impervious coating, which also conceals its bitter taste. Literature upon this new preparation sent physicians only upon request and receipt of professional card. Address:

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SURGICAL SUGGESTIONS.

Treatment of Vesical Fistulæ.—Each case must be treated on its own merits, but a few general rules can be laid down:

(1) In the first place, any cause of urethral obstruction should be removed and a direct passage for urine obtained, either per urethram by a catheter tied into the canal, or by drainage of the bladder through the perineum. By this means the urine will, in many cases, be prevented from leaking into the fistula, which then may close, or at least be put into a condition capable of cure by subsequent erosion.

(2) Any foreign body in or near the bladder, or any other cause of inflammation, should be removed, if possible.

(3) Abscesses and suppurating cysts in the pelvic cellular tissue must be treated on general principles.

(4) All callous fistulous tracts must be laid open and scraped, excised, or cauterized.

DR. HENRY MORRIS.

Preparation of the Patient's Skin for Operation.—The patient's skin in the vicinity of the wound, or in a region in which the wound is to be made, requires scrupulous care and much attention to secure its disinfection. A wide area should be thoroughly scrubbed and shaved, and then, if time allows, should be macerated for from twelve to twenty-four hours under a compress wet with boro-salicylic solution. About two hours before the expected operation this compress should be removed and the sodden area should again be thoroughly scrubbed, after which a compress wet with sublimate solution, 1:2000, should be applied and kept on until after the patient has been anesthetized and placed on the operating table; here a final scrubbing is done, followed by vigorous sponging of the region with ether, and, lastly, a free douching with the sublimate solution. The surface is then ready for incision. In cases of emergency the preliminary boro-salicylic soaking must be omitted, and the period of application of the bichloride compress reduced, as the exigencies of the case may require. After the original disinfection of the skin has been done, an additional wide area of the skin surface should be covered with sterilized towels to lessen the possibility of accidental contact of hands, instruments or dressings. In many cases the covering of the entire body by one or more sterilized sheets is desirable.—DR. LEWIS STEPHEN PILCHER, "The Treatment of Wounds: Its Principles and Practice, General and Special," page 129.

Immediate Massage of Fractures.—The massage should be extremely cautious and gentle, and include the entire group of muscles, omitting none. The adjoining articulation must not be worked too violently, either by the masseur or the subject himself. Dagron reports that fractures of the two bones of the forearm in children are cured in twenty days with mobilization and massage (Lucas-Championnière), and of the lower end of the humerus in twenty-six days. By "cure" he means absolute restoration to integrity, without either functional or plastic troubles, a solid callus and muscles ready to work the consolidated skeleton normally. Fifteen to twenty minutes are required for the mobilization, and the maneuvers should never cause pain. In fractures involving the periosteum, in rachitic children, in syphilitic adults, the mobilization and massage must be applied at a distance, not directly to the injured spot. In fractures of the olecranon, with a space of two centimeters, this will increase to three after mobilization, and gradually close up to one centimeter. This is the best result attainable.—*Presse Méd.*, December 3d; *Journal of American Med. Assoc.*



The American Year-Book of Medicine and Surgery. By GEORGE M. GOULD, M. D. Illustrated. Royal octavo, pp. 1077. Philadelphia: W. B. Saunders, 925 Walnut street. 1898. Price, in cloth, \$6.50; in sheep, \$7.50.

This excellent epitome of recent progress should be in the hands of every physician. It represents in a condensed form the latest and best work of our profession. The increasing demand for the Year-Book since its inception shows an appreciation on the part of the profession which must be gratifying to both author and publisher. Dr. Gould has been ably assisted in the present work by twenty-seven of the leading physicians of this country. In the present volume 224 pages are given to General Medicine; 223 to General Surgery; 82 to Obstetrics; 84 to Gynæcology; 42 to Pediatrics; 62 to Pathology; 53 to Nervous and Mental Diseases; 14 to Orthopedic Surgery; 57 to Ophthalmology; 32 to Otology; 22 to Diseases of the Nose and Larynx; 31 to Cutaneous Diseases and Syphilis; 37 to Materia Medica, etc.; 13 to Anatomy; 17 to Physiology; 11 to Legal Medicine; 10 to Public Hygiene, and 10 to Chemistry. The Index occupies 54 pages.

A Treatise on Fractures and Dislocations. For Practitioners and Students. By LEWIS A. STIMSON, B. A., M. D., Professor of Surgery in Cornell University Medical College, New York. In one octavo volume of 823 pages, with 321 engravings and 20 full-page plates. Cloth, \$5.00 *net*. Leather, \$6.00 *net*. *Just ready*. Lea Brothers & Co., Philadelphia and New York.

Dr. Stimson has had a wide experience in traumatic surgery through eleven years of service in charge of the House of Relief. Here he has seen examples of the rarer forms of injury and some not heretofore described. This increased experience led him to recast his former book. Although in a sense a second edition of the author's two-volume work, now out of print, this book has been so materially altered and so largely rewritten that it is practically new. The eminent author has condensed his most comprehensive experience into a form adapted particularly to the needs of the student and practitioner, but the work will none the less be a standard reference book for the surgeon and the student of special subjects, who will find the abundant bibliography of indispensable value. It is believed that in the elimination of historical matters and in the substitution of settled opinions for the previous discussions of divergent views, the directness and applicability of the knowledge presented will increase the favor with which the original work was received. The illustrations have been subjected to equally thorough revision and embrace many new pictures, notably a rich and instructive series of X-ray full-page plates.

NEW REMEDIES.

Stypticin in Uterine Hemorrhages.—Dr. Bakofen reports (*Muench. med. Woch.*, vol. xlv., p. 419) having used stypticin in forty-five cases of uterine hemorrhage, comprising five cases of virginal metrorrhagia, nine cases of menorrhagia, twelve of metrorrhagia, and four of hemorrhage following the removal of the adnexa, two of atypical hemorrhage with acute gonorrhœal infection of the uterine mucous membrane, eight of endometritis hemorrhagica, two of climacteric hemorrhages, one of bleeding during pregnancy, and one of hemorrhage in myoma. Stypticin was ineffective in ten of these cases, and of doubtful action in four. In all the rest it was effective in checking the hemorrhage. No disagreeable by-effects were observed. The remedy was generally given in the form of pills or tablets, doses of 0.05 gramme (three-fourths grain) being administered four or five times daily. Usually from eight to fifteen doses sufficed.—F., *American Medico-Surgical Bulletin*.

Combining Eucaïn with Cocain.—We read in *Journal de méd. de Paris* (September 12th): By combining eucaïn with cocain we secure a valuable anæsthetic with the advantages of both and none of the inconveniences of either. Eucaïn, the methyl ether of methyl-benzo-tetramethyl- γ -oxypiperidin-carbonic acid, is a white crystal substance soluble in water, alcohol, ether, chloroform and benzine; it melts at 104 deg. Cent.; is not decomposed by boiling, like cocain. Its solutions are, consequently, not affected by sterilization. Its anæsthetic action is more durable than that of cocain, while it is not toxic. Its effect on the pulse is to retard it, while cocain accelerates it. A good formula for the combination is: Hydrochlorate of eucaïn, hydrochlorate of cocain, ace. 20 centigrammes; aqua dist., 20 grammes. For hypodermic injection, 1 c.c.—*Exchange*.

Iodoformogen.—E. Kromayer endorses this odorless preparation of iodoform as the best method of applying iodoform which we possess. It consists principally of albumin and iodoform; is three times lighter than the latter, and its odor under the dressings, even on extensive wounds, is not perceptible. It favors the production of granulations and a rapid epithelial epidermization, as he has established by experience with over a hundred patients.—*Annales de Derm.*

Euphthalmin.—Dr. Winselmann, according to the *New York Lancet*, considers euphthalmin a valuable mydriatic for diagnostic purposes. A five per cent. solution causes initial mydriasis in twenty minutes, maximum mydriasis in thirty-two minutes; a ten per cent. solution in fourteen and twenty-three minutes, respectively. Slight pupillary reaction to light remains till five to fourteen minutes later. Accommodation is not at all or very slightly impaired, reading not being hindered. The maximum mydriasis lasts three to three and one-half hours, and the pupil resumes its normal size in about seven hours. Euphthalmin causes no conjunctival or corneal irritation, no pain, and no rise in tension.

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LIQUID AIR AS A CAUTERY.

The use of liquid air as a cautery is already spoken of favorably. It having a temperature of 312° below zero, its action is, to all intents and purposes, the same as the most powerful actual cautery. It does not really burn, but utterly kills the tissues, leaving a blister not unlike a burn. Hence it has been suggested for cauterization in surgical practice. It is not only a good deal cheaper than the ordinary cautery, but it is much more efficient; and its action can be absolutely controlled. Indeed, a well-known surgeon has already performed a difficult operation on a cancer case with liquid air, and he has reported the case as cured.

FILTERS ARE NOT TO BE TRUSTED.

According to the report of the Maryland State Board of Health the various kinds of filters may steadily lose efficiency until they become real culture-beds for bacteria. Thus a gentleman in Baltimore has his water supply sent through a large filter, and in addition thereto puts his drinking water through one of the small domestic filters. A test regarding the efficiency of this arrangement was made on a day when the city taps were running 500 bacteria to the cubic centimetre, found in a little filter. The large filter was delivering 9900 bacteria in the same water. After repacking the large filter only nine bacteria per centimetre got through it, though this same water when passed through the small filter came out with seventy-one bacteria per centimetre. Experience has shown that this is the fact with the best filters; that boiling the water after filtering offers the only sure course.

OYSTERS NOT SO BAD AS PAINTED.

After numberless assertions that oysters were conveyors of the typhoid germ, investigation has proven that they are only so under certain conditions. Professors Herdman and Boyer, after three years' investigation of the British oyster, assert that the fresh oyster cannot develop typhoid fever. According to their investigations, even when the bacilli of the disease get into the bivalves, the sea water destroys them (the bacilli) in a few days. When taken out of the water, however, and kept in shops, the oysters deteriorate rapidly, and may easily convey all kinds of germs. Hence in the use of oysters, fresh oysters should at all times be obtained; but, as a matter of fact, the early decay of the oyster generally insures their proper care and attention, and germ infection must be rare.

THOSE CANNIBAL ORGANS OF THE HUMAN BODY.

Under certain conditions it will be found that the brain, heart and lungs live at the expense of other organs of the body. This trio are the guiders and distributors of the vital pabulum for the whole body. Thus in a case of starvation we find that the fatty portions of the economy go first; after the fat is devoured the blood takes with it certain muscular elements, and finally but little is left but skin and bone, while the brain, heart and lungs preserve their former size. This is a wise provision of nature, for if either brain, heart or lungs should suffer there could be no basis to build upon again. Hence ship-wrecked sailors, polar explorers and imprisoned miners from cave-ins are enabled by their brains, hearts and lungs to preserve their intelligence and energy, even if their secondary organs suffer.

WHAT SHALL LONDON DO WITH HER DEAD?

We notice that London's health is gravely menaced, owing to a lack of room in the cemeteries. This question is now agitating the members of the London County Council, as it concerns the health of the living. According to estimates it is shown that each year about 130,000 human bodies are interred within the limits of the county of London, and it is predicted that within five years London will have no public burial ground; besides, the condition of the cemeteries suggest the immediate necessity of some change of method. It has been stated that one-eighth of the deaths in London are caused by diseases which render the bodies highly infectious and dangerous after death. The crowded condition of cemeteries, the disturbance of the earth for new graves, must be prejudicial to the health of the neighborhood. It is the generally accepted opinion by all intelligent persons that the only relief can come from the expansion of the system as carried on by the Cremation Society of England.

TOTAL ABSTINENCE FROM ALCOHOL AN IMPOSSIBILITY.

The triumphs of chemistry are constant, and it would appear that often they interpret the historied wonders of a past. Their achievements with coal-tar are marvelous; they extract from it the varied tints of the rainbow and lure into existence the odor of flowers whose fragrance

refreshed the world many thousand years ago. The chemist is an omnivorous investigator: he takes the most ordinary elements and makes them reglow in elements of use and beauty: from an old flannel shirt he makes sugar; from sewerage he makes butter and quinine. Now he has found out that he can manufacture alcohol from the smoke of blast and other coal furnaces. Coal smoke of this kind contains ethylene, from which alcohol is readily made by simple means; and it is recognized that ere long the smoke of high furnaces, coke ovens and gas works will be turned to account this way. Alcohol seems omnipresent in all nature; it seems that total abstinence upon the part of man from alcohol is an impossibility. Müntz has shown that wherever we have decomposing organic matter there bides and exists carbonic acid and alcohol. It is constantly demonstrated in the air; it is found in rivers, lakes and oceans; it can be found in rain and snow and in smoke. In man's digestive tract, from mouth to anus, we have a constant working still which produces varying quantities of alcohol. Wherever we have life and growth, consequent decay by alcohol is produced. Inorganic nature stores it for centuries; all organic existence seems to be more or less engaged in the manufacture of alcohol. It is stated that only the waters of certain springs are free from it, but it is likewise stated that these waters are unfit to drink. So the most scrupulous water-drinker is not a total abstainer, but an indulger in alcohol and sadly a living still for the making of alcohol.

PSYCHOPATHIC HOSPITALS.

The establishment of psychopathic hospitals, we see, is being vigorously discussed, and the reasons for the same are pertinent and timely. The causes indicating their establishment are pre-eminently just and humane. There is no doubt that when persons present evidences of mental disorder the present mode of procedure is not only hurtful by delay, but gives undue prominence to the fact, which oft leaves a lasting stigma. The commitment of those afflicted with insanity is, according to the necessity, to some prison or place of detention under legal form, and frequently, in many States, legal measures for such commitments are duly formal, intricate and difficult, inflicting unnecessary delay and publicity. All of this can be relieved by establishing, in large cities, a psychopathic hospital, where such insane may be taken in the early curable stages of their malady without the parade and publicity of the law. When taken to such hospitals they can remain until cured or the chronicity of their trouble is apparent, when they then can be transferred to an asylum. The psychopathic hospital, then, is established for the purpose of doing away with the law's delay, stopping publicity, relieving the stigma of having gone to prison, house of detention and asylum, which we conceive are all just and worthy of consideration. There are no such institutions in the United States at the present time. Dr. Ira Van Gieson, in the last number of *The Archives of Neurology and Psychiatry*, devotes considerable space to the consideration of this subject.

Dr. Frederick Peterson, in his inaugural address as president of the New York Neurological Society, made this matter the main subject of his remarks, closing with the following paragraph:

"Surely this great city, blessed with so many hospitals, charities and institutions of learning, possessed of so many citizens eager to employ their large wealth for benevolent purposes and for human progress, might well lead the cities of the new world in the establishment of a psychopathic hospital, a psychiatric clinic, fully equipped with all adjuncts for clinical, chemical, psychologic and pathologic investigation. A psychopathic hospital would accomplish great practical good. It would be a boon to the many insane now gathered daily into a pavilion at one of our hospitals merely for distribution to various asylums. In such a hospital many cases could be treated and cured, thus avoiding transfer and commitment to asylums. Medical students and special students of psychiatry would profit from the convenience of access to the psychiatric clinics, and the young graduate would enter upon practice with some definite knowledge of insanity and its treatment. But the greatest value of the proposed special hospital would undoubtedly be the opportunities afforded for those aggregate studies by many specialists which are destined one day to discover the origin and cure of several of the psychoses, and incidentally to unravel some of the mysteries of mind."

QUARANTINE WAR IN VIEW.

As a result of inadequate national health legislation, the oft-repeated quarantine war in the southern States promises to commence at an early date and be unusually bitter. Unless Congress acts in regard to a national quarantine bill, or the governors of the southern States enter into consultation and devise some means, a quarantine war will be started on April 15th or May 1st. This, of course, is destined to paralyze the business of the entire southwest. The Mississippi Board of Health, at a recent meeting, laid the entire responsibility for last year's epidemic to the treachery of the New Orleans and Louisiana Boards of Health. Acting upon this belief, they propose to place New Orleans in the same class of infectious places with Havana, Rio Janeiro and Vera Cruz. It was suggested that without waiting for fever reports, to declare quarantine against New Orleans on April 15th or May 1st. It is evident that should this be done, much trouble would be occasioned. They, however, submitted a proposition to Louisiana and New Orleans Boards which declares that "New Orleans is a menace to the health of the people of Mississippi on account of the lax management of epidemic contagious diseases by the health authorities, and that Dr. Edward Souchon, president of the Louisiana State Board of Health, and Dr. Quitman Kohnke, president of the New Orleans Municipal Board of Health, are in favor of concealing yellow fever when it appears in New Orleans, Dr. Kohnke denouncing the law of the State which requires physicians to report cases of yellow fever, and refusing to inform the country when these cases have been reported to him by physicians of his city." The Mississippi Board demands as a condition of peace that a representative of the Mississippi State Board of Health shall be officially stationed at New Orleans. This representative must be permitted to make a house-to-house inspection; permitted to see all suspicious cases; permitted to visit and inspect all of the city hospitals at any and all times. The New Orleans and Louisiana State Boards have not as yet replied, but it is quite

certain that they will reject the demand, as ugly feelings are engendered on both sides. The Mississippi Board of Health is pledged to declare quarantine against New Orleans and Louisiana. It is almost certain that Texas and Alabama will do the same. It is stated that the Texas health officer has just obtained an opinion from the attorney-general of the State, assuring him of his power to declare State quarantine. It can be predicted with almost certainty that quarantine war will be declared, involving no less than five or six States. Nothing but a national quarantine law can prevent the constant occurrence of these wars. The writer of this has seen all of the bad effects of an interstate and interurban quarantine war. The plain story of the frequent wars between Galveston and Houston, Texas, would unfold a tale of acridity and intense interest; more than one Galvestonian will tell you that Houston grew at the expense of Galveston, and that quarantine was a means Houston used to paralyze the business of Galveston for her own aggrandizement. The failure of Congress to pass proper quarantine laws means great and constant demoralization of all business interests in the southwest this summer and fall.

SUGGESTIONS AS TO NEW HAIR RESTORATIVES—THE BALD HEAD SHRINKS FROM NO CURATIVE AGENT.

The British Medical Journal in a recent number says: "A Chinese gentleman, whose name we are regretfully compelled to keep silent because we do not know it, thus sings the praise of rat flesh as a hair restorer: 'What the carrot is to a horse's coat, a rat is to the human hair. Neither fact can be explained, but every horseman knows that a regimen of carrots will make his stud as smooth and as lustrous as velvet; and the Chinese, especially women, know that rats used as food stop the falling out of hair and make the locks soft, silky and beautiful.' It is almost needless to add that he goes on to say that he has seen the treatment tried many times without a single failure. Bald people will do and suffer many things to make their estate more gracious, and they are not likely to shrink from the remedy which the Chinese ladies find so efficacious." It is, indeed, a profoundly ancient and well-established fact that the best of brains cannot prevent a head from getting bald. Sad it is, hair by hair do silky locks go, like leaves dropping in the fall, and ever indicate the bleak and barren show of time. The recommendations of this Chinese gentleman—that a diet of rats is indeed marvelously and superlatively good for baldness—is equaled by one of the fathers of our profession, who lives in the southeast portion of this State. He (this father), with all due gravity, seriousness and sincerity, recommends the nightly application to the entire scalp of a bountiful and freshly-made mayflower poultice. Between a ragout of rats and a warm and recent mayflower poultice, it would require the delicate consideration of a perfect connoisseur to determine which is the more æsthetic and elegant form of treatment.

THE INFINITESIMALITY OF INDIVIDUAL MAN IN THE UNIVERSE.

Man is an animal so constructed anatomically as to have the broadest function, hence is the vital source of progress in this world; competent to improve, devise and create. The anatomical construction of all other

animal life hedges them into inferiority; while man's growth and progress is seemingly unlimited by the diversified breadth of his construction. Man's place in nature, according to his construction, makes him superior to all animal life; yet, individually, his insignificance is utterly incomprehensible to any finite mind. Sir Robert Ball, lately Astronomer Royal in Ireland, states that astronomy shows the existence of thirty millions of stars or suns, many of them much more magnificent than the one which gives light to our world. Their existence has been revealed by sensitized photographic plates. Most of these stars or suns are almost inconceivably distant; in order to convey an idea of their distance a telegraphic message, for instance, would reach the sun in eight minutes, while it would not reach some of these stars in eighteen hundred years. It is not only improbable, but, apparently, almost impossible, that these great centers of light should have been created to light up nothing, inasmuch as their distance debars the possibility of their use to us; it is a sensible and reasonable hypothesis that each has a system of planets round it like our own. Admitting this hypothesis, and taking an average of only ten planets to each sun, there are at least three hundred millions of separate worlds, many of them doubtless of gigantic size. It is inconceivable that all of these three hundred millions of worlds can be wholly devoid of living and sentient beings upon them.¹ "Granting the to us impossible hypothesis that the final cause of the universe is accident—a fortuitous concourse of self-existent atoms—still the accident which produced thinking beings upon this little and inferior world must have frequently repeated itself; while if, as we hold, there is a sentient Creator, it is difficult to believe, without a revelation to that effect, that he has wasted such glorious creative power upon mere masses of insensible matter. God cannot love gases. The high probability, at least, is that there are millions of worlds—for, after all, what the sensitized paper sees must be but an infinitesimal fraction of the whole—occupied by sentient beings; probably mortal in our sense, as all matter must decay; certainly finite; and then what is the relative position of mankind? If he dies, at death man is a member of a weak tribe of animals with inferior physical powers, with keen brains, but very poor nature, with a very short life, and so insignificant in numbers that it seems at first possible—we write with all reverence—that he might be forgotten even by God." Man, in the aggregate, as on this earth, then, is seemingly so insignificant as to suggest that in the monster universe by which he is surrounded it is possible that his Creator might overlook him but indicates the inconceivable immensity and grandeur of God's universe. If man is insignificant *en masse*, what, then, is man individually? Why then he is very far from being even the one trillionth part of one trillion times three hundred millions of trillions; he bides in God's universe a thing so small and invisible as to be seemingly smaller than the most infinitesimal animalcule which has graced earth. Yes, millions of which can be covered by the point of a needle. Perhaps there may be consolation in the thought that the smallest thing created is a link, an eternal, ponderous and essential link, a link which keeps the monster universe intact, without which the universe could not exist; hence individual man upholds the possibility and existence of all creation. Again,

¹ Little's "Living Age."

consolation must come from the fact that it is a wonderful infinitesimality which can surmise in the grandeur that individual man does; he must be endowed with a touch of God's own sentience, hence is great in his sheer infinitesimality and its cognoscence. Astronomy is a profound leveler of human conceit; it depicts the infinite, awful and incomprehensible enormousness of the godly grandeur of the universe. Man's position in the universe is as hidden as his origin, as hidden as the source of his mental power; whilst man's power and knowledge are marvelous, his real knowledge of self is amongst the most petty and insufficient things of earth. If, as suggested by Sir Robert Ball, this study of astronomy leads man from a study of superstitious, fatuitous individualism to a religion based upon God's broadened truth as taught by the planets of heaven, then, indeed, man will be greatly blessed.

TO WHAT IS THE FUTURE OF THE MEDICAL PROFESSION TENDING?

Oblivion is the fate of the great mass of men; seemingly to exist in life so unknown as to scarcely touch the records of notice; leading a life in which individualism is almost unmarked. God may have them recorded on the pages of life, but their lives, to all intents and purposes, is equivalent as though they had never existed. Circumstance, inevitable and ponderous, determines all human attainment; it starts with man from the great unknown "whence," bides with him in the feeling present, and goes with him to the unfathomable beyond. All query is useless, pondered surmise fatuitous; man must and will act to the spur and prod of a stimulating and necessitous present. Man was made for function; waning function marks his course and end. He seems hedged in by oblivion; he came from an unknown oblivion; he lives more in oblivion than notice; he dies, seemingly to go into oblivion. The purpose of man's life is made up of incomprehensible sequences; and as he comes and goes, the dominant idea remains that man was born and lives only to die. Life is the measure of contrasts in which the fittest survive; and for the great mass of mankind life is a continuous struggle. This struggle deeply marks the course of the medical profession in some of the older countries. No vocation thrives in stranger phases among the people of earth than that of medicine. If the actual condition of the medical profession as now existing in certain countries is an index, the future of medicine is indeed dark. It has been stated by undoubted authority that in Paris there are 2500 physicians literally battling with starvation. Year by year the number of doctors increases, but owing to the progress of hygienic science there is an increase in health and a consequent decrease of patients. Again, that the necessities of life are dearer, and these doctors of Paris are borne down by heavy rent and taxes. Unfortunately, a knowledge of medicine has so efficiently spread that lady members of various societies apply this knowledge thus imparted, to the detriment of the doctors. Progress, vanity and conceit have caused the Parisian doctors to write for the daily press, detailing prescriptions and showing how to cure various ailments, thus decreasing the physician's patronage. Parisian dispensaries are patronized excessively, giving annually 500,000 gratuitous consultations; besides, schools of medical half

knowledge send forth thousands of women who usurp the function of the physician. It is claimed that excessive competition has lowered the standard and almost annihilated medical fees. Thus we have an instance where competition has adapted itself to the wants of the people to the ruin of the profession. From what has passed and amidst the daily upturnings of complaints, we believe that the time is not far distant when it can be said that the most extended example of overproduction in all the body politic is an overproduction of physicians, since there is as yet no bar to their increase and to the increase of self-constituted healers of man.

While it remains a sad and impressive truth regarding the doctors of Paris, still more impressive is the real condition of the medical profession of Italy. Poverty, competition and overproduction have indeed palsied effort and withered hope among the Italian physicians. The medical profession of Italy, according to Professor Casati, is in that condition depicted as "a moral and civil disaster which overwhelms the majority of Italian doctors." In Italy, as everywhere else, men are swarming into the profession, decreasing the actual and prospective livelihood of all to earn a competency. There are now 22,000 physicians in Italy. The cities are oversupplied. In Milan there are seven hundred and fifty doctors. Turin has about the same number. Rome has 1000; Naples, 1200. The proportion of physicians to population is one to 1400 for the whole of Italy, whilst in certain large cities it is one to five hundred and thirty. Some 9000 of these Italian physicians are in salaried positions (*condotto medica*) whose average salary is from \$200 to \$400 per annum. According to official statistics, the average annual income of medical practitioners is as follows: In Venice, \$350; in Milan, \$700; in Rome, \$375; in Naples, \$350; in Palermo, \$250. Here, indeed, is an array of figures such as to appeal to the thoughtful. There indeed need not be wonder that insanity is so frequent among the members of the profession, nor of their deplorable prominence in the list of suicides. View the medical profession where you will, the same tendencies are now working in all civilized countries. In England stringent and precarious conditions meet the physician, for he has almost arrived at the position of the wage-earner—neither surety nor comfort in gaining sustenance. In Russia the physician's position is as stringent and harsh as his surroundings. In Spain jaded poverty marks his every step, whilst in Germany cultured young men, educated physicians, earn their living by menial means. Combination and commercialism are slowly thwarting individual reliance. Deep-grown defects in educational factors are, however, the real and ever-acting malady. The access to medical education has no bar, and outside competition, be it with the officious women, midwife or Christian Scientist, thrives. Aided by churches, encouraged by preachers, the Christian Scientist has become more than a menace to the profession, and the future promises more stringent times for the coming medical man.

PRAY, WHEREIN IS THE COMMON SENSE ?

In the realm of surgery the marvelous, the far-fetched and the daring is sought, to the exclusion of the ordinary effective and common-sense procedure. The surgeon would have us believe that his scalpel can touch any and all fields of operative procedure with benefit; that he can

inject cerebral substance and slice cerebral tissue and not affect the mentality of the subject operated upon. Any new and daring operative procedure is hailed with delight, and its votaries arise as rapidly as information can reach them. In the treatment of tetanus there is constantly presented a strange concatenation of thought: in one instance a most radical procedure is followed by audacity and industry, whilst in another a most common-sense treatment is presented, minus all of the attendant elements of audacity and mutilation. Compare Baccelli's method of treating tetanus by hypodermic injections of carbolic acid with the intracerebral injection of antitetanus serum.

According to Vittorio Ascoli, assistant in Baccelli's clinic in Rome, the number of cases collected from Italian, French, German and Russian literature by A. Zeri was twenty-four, and among these was no instance in which the treatment failed. Ascoli reports thirty-three cases in all with only one death. Now, the intracerebral injection of antitetanus serum shows a mortality of fifty per cent., not to think of sequelæ which develop as time renders them manifest. In Baccelli's method carbolic acid is injected hypodermically in and around the seat of injury, the doses being three to four centigrammes of a two to three per cent. solution; the injections may be given several times in twenty-four hours; in certain cases the daily amount of thirty-five centigrammes has been administered without any sign of intolerance being manifested.

Ascoli sums up his conclusions as follows: (1) Statistics show better results from the carbolic acid method than from the use of serum. (2) The carbolic acid must be given hypodermically and in large doses. (3) Under its influence the muscular contraction and spasms diminish in a marked degree. (4) The acid acts in tetanus particularly as an anti-toxic and a moderator of the reflex activity of the nerve centers. (5) The energetic local disinfection, combined with the support of the patient's strength, are the cardinal points in the treatment of tetanus. (6) Serum treatment is useful as a preventive, and also in the developed disease, when it is possible to apply it early or when the production of toxins is still going on. But the results of this method, if they cannot be ignored, are neither convincing nor brilliant. Even if it were the most efficacious method, symptomatic treatment must not be neglected. (7) A patient suffering from tetanus must be treated eclectically, regard being had to the wound, to the intensity of the intoxication and its duration, and to the special conditions present in the case. Carbolic acid in a large measure fulfills the indications, and is, therefore, suitable for the majority of cases.

This certainly presents a most favorable statement and one which would commend itself to any common-sense person. Concerning the toxicity of carbolic acid, our experience indicates a greater danger of poisoning when mild solutions are used than when full strength is employed. In the treatment of an extensive anthrax upon the posterior portion of the neck there was injected directly into the tissues at the edge of the inflamed skin nearly an ounce and a half of pure carbolic acid in the first four days of treatment. We have almost arrived at the conclusion that toxic symptoms of carbolic acid will not be manifest when injected in a pure state. Between the serum treatment of tetanus and Baccelli's method, we certainly would commend the latter strongly and ignore the violent and indefinite plan of the serum treatment.

SOME FALLACIES ABOUT THE BRAIN.

It is natural to suppose that an organ possessing the wonderfully intricate function which the brain possesses would be enshrined in much that is hidden and mysterious. It has often appeared to the investigator that certain qualities of the mind are inherent in particular portions of the brain; but time and investigation have left nothing but assertion and an unproven scientific theory. Even take cerebral localizations now used as the basis for surgical interference, and it is found that they are not absolutely correct. The character of a brain, when removed, only indicates its size, character of convolutions, and gross anatomical appearance; it is an utter fatuity and impossibility to determine the extent of intellectuality. The study of the external appearance of a brain has never indicated to the deepest student whether it is the brain of male or female, or whether of a genius or fool, although it is established that an enormous brain very rarely if ever belonged to a genius.

In a recent number of *The Popular Science Monthly* Dr. Joseph Simms discusses many points in connection with the brain very intelligently and interestingly. It has been an accepted idea by scientific students that the native and inherent ability of man is generally proportionate to the weight of the brain, but from Dr. Simms' investigations this remains an unproven point. The heaviest brain belonging to a talented person was that of Turgeneff, a novelist, whose brain weighed, at the time of his death, 71 ounces. Still it can be shown that the mass of brain very far from indicates the quality of mind: thus an idiot boy of fourteen, who nearly killed his sister, had a brain weighing 57.5 ounces; another idiot possessed 59.5.

Dr. Ireland cites an imbecile with 70.5 ounces; and there is a record of an illiterate and weak-minded man with 71.3 ounces. In the Army Medical Museum in Washington there is a brain of a dwarfed Indian squaw, 73.5 ounces; even these figures are exceeded in the case cited by Bischoff of an ignorant workman Rustan, who is credited with 78.3 ounces. Thus it will be seen that weight of brain is not necessary for the best of intellect.

According to Dr. Simms, the average weight of brain for man is 52.2. The mean for his sixty famous men is only 51.3 ounces, making them on the whole below the average of ordinary men in the quantity of their cerebral development; but the mean for Dr. Simms' idiots and imbeciles is 59.4 ounces. Napoleon I., Daniel Webster, Agassiz, and Chalmers are among twenty-one famous persons whose brains weighed from 50 to 53.6 ounces; the Scottish physician Abercrombie's brain weighed 63 ounces, the Scottish general 62, and General B. F. Butler the same. It has been noted in tables of brain weight that cold northern countries produce bigger brains than warm tropical ones do. The largest average is attained in Scotland. Thackeray, Cuvier, and the infamous Jeffrey had brains weighing between 54 and 58.6 ounces. In another group he (Dr. Simms) gives a group of twenty-five men having from 40 to 49.9 ounces of brain; one finds Grote, Gabbage, Bertillion, Liebig, Bishop (the mind-reader), and Gambetta. The figures given for the last named are 40.9. Now, the average weight of the brains of several hundred boys between the ages of seven and fourteen was found by Dr. Boyd to be 45.9 ounces,

and for boys ranging from four to seven years 40.2. Gambetta steered the French Republic through one of its most dangerous crises. His death was pronounced "the sudden extinction of a powerful individual force; one of the most powerful, indeed, of such forces hitherto operating in Europe." Yet in the scales his brain counted for less than that of the average boy of seven. The number and depth of convolutions and the quantity of cortical substance has been considered as bearing an important relation to mentality. The average thickness of the gray matter is one-fifth of an inch, but in Daniel Webster's there was only one-sixteenth of an inch—less than one-third of the normal amount he avers, than in many of the lower animals; and in persons below the average in intelligence a thicker cortex has been found than in Webster's brain.

HE RAISES THE DEAD.

The wires quiver under the click of the telegrapher's key; space ceases; letters, words and sentences grow; a new message, of rare import, is flashed to the ends of the earth—a man, e'en as Christ did, raises the dead! In glowing head-lines we read, in the lay press, another wonder of modern surgery—restoring the dead to life! From what we read, with this new and modern life-restorer death and life bide in the pressure of his thumb. Here let us peruse how Doctor Tuffier, of the Hospital de la Pitie, of Paris, explains the marvelous possibilities of his procedure:

RESTORING THE DEAD TO LIFE.

DR. TUFFIER EXPLAINS THE POSSIBILITIES OF THE OPERATION.

"Paris, February 24.—It is quite true that we recently restored to life a dead man. It is also true that we have restored to life fifty animals. Death is merely the arrest of circulation and respiration. If this arrest be due to a mechanical accident, it is obvious that the obstacle can be overcome by putting the machinery of life again in motion.

I can restore to life almost any dead man whose heart is sound and who is brought to me within a few minutes after death.

I make an incision in his breast, take his heart in my fingers, and by a series of delicate manipulations restore the circulation of the blood and bring the dead man to life again. The circulation becomes quite normal after this operation.

Nothing could be clearer than the case of a young man whom we restored to life recently at the Hospital de la Pitie. I was explaining a physiological question to my class of some forty students, when an attendant rushed into the lecture hall and told me that a young man had died suddenly in another part of the hospital. Thither I took my whole class. The man had died of appendicitis. He was dead beyond all doubt.

In the presence of my assistant, Doctor Dumont, and all of my pupils, I cut the man's side open and pressed his heart with my fingers. The blood circulated, he began to breathe, he opened his eyes, he looked around, he talked to us.

Then I stopped, and after three minutes the young man was dead again. I repeated the experiment, putting the heart into better action, and the young man lived for two hours. He might as well have lived for

two years or for twenty, if I had had proper mechanical means at hand to perfect the resuscitation which I had begun. The mechanism I speak of can be constructed without great difficulty.

Every dead person cannot be restored to life; but we know how, by experiments which are beyond question, some dead men can be brought back again."

There is an old saying that "there is no medicine against death;" but, then, this was said when surgery was in its swaddling clothes and a barbarous thing. Aye, surgery, with its teeming progress, brilliant operative success, is constantly and unceasingly curing man. Heavens! yes, perverse man goes on dying as he has always done, as though progress had never illumined its course. Now, we repeat, now all this will be different, as Doctor Tuffier's suggestion halts death, more or less, to show the triumphs of modern surgery. 'Tis plain, indeed 'tis painfully plain, that somebody has made a mistake in letting man die. We are told that the gentleman experimented on by Doctor Tuffier died three times: First, he died of appendicitis; he was then brought back to life, he talked; then he died again, but was once more brought back to life and lived two hours; then died again. 'Tis true, we know, that to die is the fate of man—aye, 'tis even said that to die is nothing—but to die three times in as many hours is, indeed, Tuffier-if-ic! True, Tuffieration makes the livest dead man yet seen on earth; still, Doctor Tuffier illustrates Young's thought: "As soon as man, expert from time, has found the key of life, it opes the gates of death." "If," says Doctor Tuffier, "if I had had the proper mechanical means, he (the man) wouldn't have died." Yes, that's true as gospel and as clear as "plate ice"—if the man hadn't died he would have lived. Yes, 'tis true as truth: "if" has destroyed more profoundly ponderous possibilities than all else in life, except death.

Oh, ye dead, dead hearts! thy peace has fled—
Thumbed, fingered, and pressed three times dead!
Oh, sad, sad indeed, is man's death-dealt fate!
But Tuffier still it grows when Tuffier operates.



CLINICAL LECTURE.

CLINIC ON DISEASES OF THE SKIN.¹

By CHARLES WARRENE ALLEN, M. D., of New York.

Consulting Genito-Urinary Surgeon to the City (Charity) Hospital; Consulting Dermatologist to the Randall's Island Hospital, to the Hackensack Hospital, to the Bayonne Hospital, to the Infant Asylum of the Holy Rosary; Attending Surgeon to the Good Samaritan Dispensary (Department of the Skin), Etc. Etc.

GENTLEMEN:—The first patient we present to-day illustrates rather the results of an accident than a skin disease. Denuded areas varying from the size of a fifty-cent piece to that of the palm occupy the region of the chest and back. Some are more or less circumscribed in outline, others irregular, but all are tender and bleed on the slightest touch. The region occupied suggests at once *zoster pectoralis*, but the distribution is so irregular, and passes the middle line both in front and upon the posterior aspects of the trunk, that this diagnosis is at once excluded. Here and there, there is deep pitting which would not wholly exclude the diagnosis of *zona*, since, in the latter affection, there are gangrenous forms which are markedly destructive of tissue. Upon questioning he tells that one week ago he had pain in the chest and sought medical advice. The physician prescribed something with which the whole trunk was to be vigorously rubbed. The next morning the skin was found to be severely burned, and since that time efforts have been made to bring about a cure with only partial results, the lesions showing but slight tendency to heal. A copy of the prescription which the patient has secured I now present to you. It is as follows:

R Menthol,
Ext. aconite.
Tinct. belladonnæ,
Tinct. opiiaa ʒj
Zinc chlorad ʒ iij

The physician evidently meant to write for ungt. zinci oxidi, and one of those curious lapses of co-ordination between the head and hand caused the prescriber to order something he did not mean.

We will cover the man's chest with a one per cent. (1%) picric acid solution, which has been found to be one of the most grateful and efficacious remedies in burns of various degrees and stages. Over this we will spread a piece of cheese-cloth smeared with vaseline or cold cream to protect from friction and irritation.

The next patient, a woman, aged thirty-two, presents a rather interesting condition, in that the present eruption is really secondary to an entirely different condition. Four weeks ago, small scaly, round patches began to appear over the upper part of the chest which were extremely itchy. These have been scratched and irritated with a coarse flesh-brush

¹ Delivered January 9, 1899, at the Good Samaritan Dispensary, New York City.

until they have become transformed into veritable plaques of eczema, the clinical features of the original trouble being almost obliterated.

We will treat her with a wash of lysol, to be used over the whole body twice daily.

The next case is no less interesting, being rather rare; it is one of purpura-like lesions in an infant of sixteen months; it is of two days' duration and limited to the region from the hips down to and including the feet and foot soles, cheeks, forearm and hands, with a single patch of small blue spots upon the right side of the chest. Upon examining more closely, we find at the border of these grayish patches, extending up over the hips, a distinctly raised red margin; this is a condition not present in purpura proper, but it stamps the affection as one of *erythema multiforme* of the purpuric variety. The mother tells us that the illness began three days ago with rather severe diarrhœa, which lasted two days. It was upon the second day that she noticed the blotchy redness of the legs and feet, the child being restless and feverish, as she supposed, from teething. These spots have rapidly changed from dark-red to bluish, grayish, greenish and even yellowish tinge, until now the variegated appearance presenting is very striking. The temperature, taken per rectum, is 100 degrees F., but the tongue is clean and the child takes the breast. We should examine the interior of the mouth, for the reason that *noma* has occasionally begun with just such symptoms, especially after severe disease. Although this child does not look particularly healthy, the mother says the child has had no illness since a summer diarrhœa. Inspection of the mouth is, unfortunately, negative.

We will give this child small doses of resorcin, as follows:

R	Resorcin.....	gr. j
	Spts vini rect.....	$\frac{7}{8}$ iv
	Aquæ.....	ad $\frac{3}{4}$ ij
M.	Sig.—A teaspoonful every three hours in milk.	

The next case, also a little child, is present on account of an ulcer in the corner of the mouth, which extends somewhat upon the mucous membrane as a bleached patch, the color being that of a washerwoman's hands after a day's wash. The actual ulcer, which is at the commissure, is round, but, until distended by widely opening the mouth, appears to have overhanging edges. This is a distinctively specific lesion, although the only one which the child presents upon the body at the present time. The parents who accompany the child say that there has never been any eruption upon the body nor any other evidences of infection. Upon examining the mother we find a pigmentary syphilide upon the neck, unmistakable in its features. Scattered over a pigmentation which would on superficial inspection possibly be called a dirty neck are small white areas of leucoderma. This is not the result of a preceding syphilide which has disappeared, but exists as a condition *per se*. The condition is not so very uncommon, especially in women, but is frequently overlooked. At times there is a reticulated appearance, as though a lace neck-handkerchief had been worn through the meshes of which sunburn had taken place. The father presents a scar at the naso-labial fold, which marks the site of the infecting sore accidentally acquired, and, aside from the patches in the margin of the tongue, presents no other manifestations of his infection.

The history is very instructive and interesting, showing how a family syphilis of the most innocent kind may exist, involving all its members. The history dates back to May, 1897, when a wet-nurse was taken into the family to suckle the first-born. This infant acquired syphilis from the unsuspected nurse, who was at once discharged. But the child becoming so ill that its life was despaired of, the mother, in her pity, put it to her own breast, and, in the course of time, discovered that she herself had become infected. The history shows that after this child's death the mother became pregnant, but carried out an inunction course during a considerable part of her term of pregnancy; so that, until now, she has considered herself quite free from the disease, and has looked upon the child before us, born at term, as having escaped infection.

The result of our examination to-day shows this belief to have been unfounded. The child is now two years of age. The father was first seen in February, 1898; he then had a primary lesion at the center of the upper lip, where the naso-labial junction is. He was put at once upon a course of injections of bichloride of mercury, and has since taken protoiodide of mercury internally, with the result that he has remained well with the exception of occasional mucous patches in his mouth and some sore throat. We will give the mother and father each an additional course of twelve injections, and the child an equal number of inunctions.

This next case illustrates a rather rare condition for a child of three years to present—namely, a chronic eczema of all the fingers of one hand, which has existed for over three months, and which from the paronychia involvement has produced nail-changes similar to those found often in chronic eczema of the adult, especially in dish-washers and bar-keepers. The child has been under the most constant treatment, the mother tells us, but despite this the flexor surfaces and interdigital surfaces of the distal extremities and the dorsal surfaces of the fingers are involved in a chronic infiltration, with decided thickening and desquamation, the skin about the attached extremity of the nails being thickened, and the nail loosened and curved upward at the free extremity. This is, undoubtedly, as in the adult, a form of mycotic affection. The mother cannot tell us just what treatment has been pursued, but until the infiltration has become very much reduced we will apply to the fingers, each being separately bound up in a five per cent. (5 %) ichthyol ointment, drawing over each finger a diminutive rubber condom to protect the dressings from dirt and water, as well as to retain the application well in place and keep up a moderate degree of pressure. In the absence of rubber finger shields, an impervious and occlusive dressing may be readily made by covering each finger separately with pledgets of cotton painted over with ten per cent. (10 %) ichthyol collodion.

This next case is also one of eczema, but in an entirely different form. The boy, four years of age, presents a papulo-vesicular eczema over the whole chest, shoulders, neck, with a few scattered lesions over the face and hips, none being present upon the arms or legs.

The diagnosis of scabies is excluded by the location alone and the entire absence of lesions from the feet and hands.

Pediculosis vestimentorum is excluded by the presence of lesions upon the face, the absence of excessive scratch-marks between the shoulders and

about the waist where the clothing makes pressure, and the failure to find evidences of the pediculus or its eggs in the undershirt.

As to the form of eczema, the seborrhœal is excluded by the absence from the scalp and cheeks, and of the ring-formed lesions in the center of the chest, and freedom of the groin and flexures. The impetiginous variety is excluded by the entire absence of pustules and yellow crusts. The only complication is the blood-stained scratch-marks. This leaves us nothing but the neurotic or reflex eczema by which to designate the condition. The mother tells us that a few spots appeared upon the chest one week before the child broke out with measles. After recovering from the latter the same kind of spots spread over the whole trunk, and are now coming for the first time upon the face. We have found no other etiological factor than the measles to accuse as the cause of this reflex disturbance, and we must regard it as one of the unusual associated conditions occurring as a premonitory rash and continuing as a sequela.

On account of the severe itching, at night especially, we will order a one to eight hundred (1-800) solution of lysol as a wash, to apply twice a day and to be followed at bed-time by a two per cent. (2%) beta-naphthol ointment.

The next little patient, seven weeks of age, presents still another variety of eczema—namely, the seborrhœal form. Ever since birth the child has been troubled, more or less, with *crusta lactea*, or thick oily crusts mixed with desquamated epithelium covering the anterior part of the scalp, especially in the neighborhood of the fontanelle. For the past two weeks there has been a moist intertrigo of both groin regions, or what is in this instance properly called an *intertriginous eczema*. The condition is not limited to the folds of the groin, but extends up over the abdomen and down upon the thighs, even to the calf, as an erythemato-squamous eczema, in parts diffused with outlying small patches.

We will apply here the combination treatment—that is, a one-half per cent. ($\frac{1}{2}\%$) resorcin and lanolin ointment for the scalp and non-moist areas, while the more inflammatory and more tender regions occupied by the eczema rubrum we will paint with a three per cent. (3%) watery solution of metylene blue. I will here say to you, gentlemen, that of all drugs and applications found useful in intertrigo and intertriginous eczema in general, which is so common an affection in infantile life, there is nothing which, in my experience, gives so prompt and marked relief from the irritation and effects a cure in so short a time as the above.

The next patient is a young lady of seventeen, who first presented herself three months ago with psoriasis of the body, which had existed for three years; the whole forehead was involved in a combination of seborrhœal eczema and psoriasis—a combination which I have often pointed out as present in psoriatic cases, the seborrhœal element sometimes somewhat predominating and determining the clinical features of the eruption. In this young lady a patch of scalloped outline, extending from the margin of the hair to the brow, recently existed. Laterally it extended to the temples, producing so much disfiguration that, unless the hair was worn in a bang, hanging down to the brows, it would have been impossible for the young lady to go into society. Naturally a patient with such a condition is more persistent in the endeavor to get relief than one in whom the lesions are on

hidden portions of the body. Persistent applications of remedies, including first resorcin, until the seborrhœal element was largely eliminated and much of the infiltration had been removed, and then applying a five per cent. (5%) chrysarobin ointment, well rubbed in each day with the fingertip, the excess being carefully wiped off from the surrounding skin to prevent disfiguring dermatitis and the danger of the irritation from the well-known irritating qualities of this remedy, has given a result that has been all that could be desired. As the patient presents herself here to-day she is scarcely to be recognized as the patient who applied for treatment three months ago. The lesions upon the body have almost disappeared. During the past two weeks she has been taking powdered thyroid in five-grain doses, and we will continue this for the present, but whether with any benefit it is difficult to say. It has seemed to operate with any marked degree of efficiency only in patients who are at the same time overfat.

The next three patients all present conditions of ring-worm. In the case of the little girl with diffuse ring-worm of the scalp we get an indefinite history, but this condition has undoubtedly been going on for months unobserved and without treatment; her younger sister showing the small bald patch over the temporal region, of evidently quite recent development; and a small boy with a twenty-five-cent piece sized ring over the malar region. The boy is not related to the other patients, although just this combination of scalp ring-worm in one member of a family and skin ring-worm in another member of the same family is not uncommon.

The treatment of these cases is somewhat different. The surface ring-worm we can cure in a single application with formol in full strength, rubbed in vigorously with a pledget of cotton twisted on a tooth-pick. We will apply this treatment likewise to the bald patch of the younger girl. In the older child, who has thick, coarse red hair, we will first have the hair cut off short and the scalp washed for a few days with a one per cent. (1%) solution of green soap in water, to which one-quarter per cent. ($\frac{1}{4}\%$) lysol is added. After this we will paint the entire area of scalp involved with a five per cent. (5%) chrysarobin collodion.

Louis XIV. was always preoccupied, even when very old, in subjects of intrigue and gallantry. He was forever annoying the ladies of his court. One day he interrogated his physician, Fagon, as to the contrast between his feelings in the morning when he first awoke in his downy bed, his platonic erection of pleasure, and his attempt at the act of coition. "What would you do if you were in my place, Doctor?" he asked. Fagon cruelly replied: "Sire, allez pisser!"

Another court physician, Dr. Bourard, was asked by Louis XV.: "How many times am I permitted to have connection?" And the physician answered the impotent monarch by saying: "As often as you think you are able to perform the act."—*Lancet Clinic.*

ORIGINAL ARTICLES.

CASES OF HEMORRHAGE CAUSING GREAT DISTENTION OF THE MALE URINARY BLADDER.

By REGINALD HARRISON, F. R. C. S., of London, England.

Surgeon to St. Peter's Hospital.



OME instances of this kind that happen to have recently come together, offer material for remark relative to the prompt and direct action which the bleeding usually requires. Cases of great distention of the bladder from this cause, independently of those incidental to malignant growths, are not very common and generally occur in bladders which are muscularly weakened, either as the result of a chronic stricture or of an obstructing prostate. The forcing downwards exercised by the normal viscus is the great safeguard against retrograde hemorrhage following

certain operations upon these parts. I cannot remember seeing a severe case of bleeding after an internal urethrotomy for stricture, for instance, where the patient was in possession of the full power of voluntarily emptying his bladder completely. When atonied or weakened the latter is liable to yield under the pressure of bleeding proceeding from a lesion in front of it, and then serious and exquisitely painful symptoms may be the result. In some instances the distention thus produced will assume the size of the gravid uterus at about the seventh month. The difficulty in dealing with such a condition is added to by the fact that in the instances referred to the urethra is more or less obstructed. The following cases which are briefly narrated seem to present some points of interest:

CASE 1.—The patient was a man, aged thirty-seven years, the subject of chronic stricture in the deep urethra, for which an internal urethrotomy was performed three years previously and from which he derived so much benefit that he afterwards neglected to use a bougie regularly. Then the stricture began to recontract and eventually it was found impossible to pass even the smallest instrument. On June 21, 1898, an attempt was made to dilate under an anæsthetic and some progress was made, bougies up to No. 4 entering without much difficulty or bleeding. I saw the patient on the following day and found that he had passed only a small amount of blood-stained urine since and that his bladder was largely distended, reaching to a level with the umbilicus. He was in great pain and was sweating profusely. He was again placed under an anæsthetic and a small catheter was passed, but very little urine escaped. As it was obvious that clotted blood formed the main contents of the bladder and that it must be removed

without delay the process of stricture dilatation was at one further proceeded with until a full-sized Lister's bougie could be passed. A large catheter-evacuator was then substituted and a mass of clotted blood was withdrawn by the aspirator as used for litholapaxy. In this way the bladder was soon cleared. A full-sized rubber catheter was then tied in and the patient speedily recovered. Though the full caliber of the urethra is restored the partially atonic condition of the bladder continues, as there is a constant residuum of six ounces or so unless the catheter is used—the result of a neglected stricture, though in a young man. It would not have been possible to evacuate these clots in any other way except by opening the bladder either in front or from the perineum.

CASE 2.—A man, aged seventy-two years, with a large prostate for which he used a catheter, was seen by me in June, 1898, in consequence of hemorrhage into the bladder, the latter when seen being enormously distended. Some blood-stained urine had been drawn off, but without lessening the size of the viscus. Several large-eyed catheters were ineffectually tried. As the bladder was evidently full of blood-clots the patient was placed under ether and the evacuating catheter and powerful aspirator were used without avail. As it looked as if it would be necessary to open the bladder, I first passed a smooth-bladed lithotrite and broke up the mass of clots just as if it were a stone. In this way a hand-basinful of clots and urine was withdrawn and the bladder was cleared. A rubber catheter was tied in and the patient did well. This was the first time I had used a lithotrite for this purpose, but it answered admirably and made the process extremely easy.

It was suggested that the hemorrhage had, in the first instance, been caused by the catheter. I do not believe that this was so. I have seen many cases where old men apparently bled into their bladders instead of into their brains. I refer to instances of vesical apoplexy which are not uncommon. One patient, now aged seventy-five years, whom I have known for some years, has had his life prolonged, I believe, by this less dangerous substitute for cerebral bleeding. Hence in some of these instances, a "masterly inactivity" is often indicated. When, however, the bleeding attains the proportions stated in this case interference becomes necessary. Failing with the lithotrite there did not appear to be any other alternative than that of opening the bladder above the pubes. The use of the lithotrite, however, proved to be the solution of the difficulty.

CASE 3.—A man, aged forty-seven years, came under notice at the hospital in November, 1898. For some weeks he had been attending as an out-patient for the purpose of having a No. 6 bougie passed for a contractile stricture in the deep urethra. On the day in question a No. 7 flexible bougie was passed. There was some tightness and a little bleeding followed. The patient returned at night with almost complete retention and with the bladder greatly distended, apparently with urine but, as it proved, more with blood and clots. The house surgeon succeeded in emptying it with an evacuating catheter and aspirator. On the following day the amount of distention and pain was as much as before. As the bleeding was unchecked, and as it evidently proceeded from the strictured portion of the deep urethra, I had the patient placed under ether again. I passed a medium-sized grooved staff and performed a perineal section, dividing the stricture in the median line. A large gum-elastic, rigid drain-

age-tube was then passed into the bladder. About two pints of clots, blood and urine were evacuated, and the bladder was washed out and the tube was fastened in. For this purpose I use incompressible tubes¹ which were made for me some years ago by Mr. J. W. Wood, of Liverpool. Being rigid, in case of bleeding from the deeper portion of the section it enables the surgeon to pack round the tube with gauze without interfering with the constant flow of urine from the bladder. This was not necessary in this instance, as I took pains to make the section through the deep parts fit the selected drainage-pipe. The tube was removed in seven days and the patient was able to leave the hospital in three weeks with the wound soundly healed. His stricture has been greatly benefited and he now has a full-sized bougie passed when he applies as an out-patient. Here the single proceeding that was adopted at once stopped the bleeding at the spot from which it came, allowed the bladder to be emptied of a mass of clots which could not otherwise have been readily disposed of, and considerably improved the condition of the stricture. Digital exploration of the bladder, as Sir Henry Thompson described it, has reduced to simplicity the old perineal section without restricting its application.

I may here incidentally refer to a somewhat curious case of prostatic hemorrhage and vesical distention recently seen. It was the case of a patient with prostatic enlargement who was entirely dependent upon the catheter. Whilst traveling to the North by an express train he had occasion to use his flexible catheter in the lavatory department attached to his carriage. Just as he had inserted the instrument and as the train was passing over some points he was thrown with great violence against the side of the carriage before he had time to withdraw the catheter. He felt hurt and faint and considerable hemorrhage by the urethra followed and continued with much distention. I was requested to go down to see him with his medical attendant a few days afterward, and I found that he had suffered most seriously from the injury. The distention had been relieved by the catheter, but the wound of the prostate, from which no doubt the hemorrhage came, was followed by a sharp attack of epididymitis; the patient, however, made a good recovery. From the examination of the circumstances connected with the injury it was a marvel that the patient escaped a ruptured bladder. The case is not without its practical aspect.

¹ Figured in *Surgical Disorders of Urinary Organs*, fourth edition, p. 104.

Menelik, the negro negus of Abyssinia, has become enamored with medicine and surgery. The favorite amusement of the negus is to pass his time at the hospital erected at Adin-Abcha by the Russians and there assist at surgical operations. The chief surgeons, by their skill, evoke cries of enthusiasm from the king. His greatest joy is to act as surgeon's assistant, and when he holds on a limb or an arm of some patient about to undergo an amputation he is ravaged with ecstasy, and exclaims: "Oya gut! Oya gut!" (admirable! admirable!). The King of Ethiopia keeps thoroughly informed as to all that goes on in the hospital, and would rather miss his dinner than miss seeing a capital operation.—*Lancet Clinic*.

REVERIES OF A RAILWAY SURGEON.

BOOH-H-H-H! Winter is here indeed; 'tis a cold night; bustling, shrieking December winds. Phew! listen to that deep, roaring, mumbling, shrieking, howling gust! 'Tis like a mad fiend, bustling, beating for entrance against the house walls and windows! Oh! oh! ho! you are baffled. I care little if you roar, growl, and sulk away. Aye, shake the universe without; you'll not be admitted. Well, well; a hearth of your own is worth more than gold: with loving hearts within, 'tis wealth untold. Surely, bright burns the fire where content and love bide. Aye, aye; sparkle and glow, my fire; cast your changing and flickering glare, and make what shadows you please in flitting red hues of comfort. Yes, I would rather be king of comfort than czar of the world. So, so; all hail to thy genial warmth, O my fire! for thou art indeed welcome when roaring December winds, crispy tinklings of frost-bound things, and pendant icicles are without. Ah, this is comfort: work done, nothing neglected. Well-earned rest is gained. Well, humankind is much the same in many things. With the clattering of wintry winds and the glow of pleasure, then come musings. Aye; here, then, there is need of thoughts that breathe, but not words that burn. Here revery; let thought bless and flit across an easy mind. Come, mine easy chair! So thoughts purl and flow, there's no need of strain; for thought can come to the tuneful flow of a quiet heart, and the soothing sense of ease and comfort. Sweet is the hypnosis of ease.

Humph! humph! you are violent, my friend, the storm. Aye, 'tis a harsh night. God grant that I am not called out this night. Yea; deeply, too, God grant that I am not called out to see some poor, maimed, torn and bleeding sufferer. Heavens! this night is harrowing enough without being mixed with pain, anguish, and agony. Well, away with these gloomy forebodings; for sufficient unto the day is the evil thereof.

So, what care I if I have not the world's wealth: I now have a world of comfortable ease. 'Tis strange—nay, 'tis withal natural—for comfort and suggestive wintry wind to bring thoughts in comparison's train; for here it is, that no sooner do I feel contentment and comfort's glow, than thoughts come. What would I and others do without fire such a night? How many are the poor, weak, and needy who suffer from this stringent night! God help them! December, the month of mirth, the month of gladness; the last month of the year. Well, well, well! time creeps on apace; for I have passed many Decembers. Yes, a doctor for more than thirty years! In some ways the time seems as ages; and then, again, as only yesterday. How little do we control our destiny! Perhaps 'tis an untold blessing that it is so. Yes, had we the acumen to see and determine every ever-acting, powerful, and unseen force, our destiny might be different. But what then? Would it be with us as good as it is now? Surroundings and circumstances are the great moulders of destiny; twist and play with man as a leaflet in the vast ocean of time as God wills them. Still am I led to think that the goddess of destiny more often dwells in a man's head than elsewhere. As for me, as time has come and gone, I have noticed that when men act honestly (all things being equal), those who work dili-

gently, strive industriously, bear and forbear; who glorify not themselves, and practice charity—they have begot a good destiny. Aye, in my life I, too, have noticed that the most unhappy men are those who are not content to live with the things of earth, but must in curiosity peer into realms beyond men; who study self, cause; who study about soul, heaven, or hell, and the endless chain of self-deluding, speculative themes. Truly, men who live in a realm of *fact*, live in a realm of solution; but men who live in *theory*, live in a realm of unsolution, presided over by a wearying and nagging tyrant.

Yes, I know that on earth was I brought through no will or wish of mine;

What I've done in this world I have honestly done, its objects I strive not to divine.

Yea, God's purpose I ne'er deeply questioned: that I am as I am appears natural to me:

I've enacted my part as life's forces compelled—the verdict I accept, whatever it be.

I complain not at God, I grumble not at man, for I am contented to live and to act;

I made not man, then why need I harshly condemn him, in thought or in fact?

Charity to me is sweet, holy, and high; the noblest, grandest God-given command;

For I know that kind, good, and charitable souls are at peace with God, self, and man.

Well, here let us pause; 'tis useless to trudge in these lines. All thinking men have their beliefs, and it appears that Cæsar is right when he says: "Men willingly believe what they wish to be true." So, let it rest at that.

Well, anon, let me see: I have been a railway surgeon now for over twenty-three years. Truly, much have I seen during that time. Yes, what a position has the railway taken! It has become the rare and ponderous power in the making of any country. "Despatch is the soul of business," says Chesterfield; but the soul of despatch now seems to be a railway train. Trade's proud empire hastes on swift wings of steam, and her domain has become almost endless; for true it is that railways now time the world's pulse. But, in my work, the railway is like war—becomes the feast of death or leaves scars. Ponderous in power are railways! Yea, the most perfect and ponderous power the world has ever seen—mechanical power, the monster giant of power and energy, to do the bidding of a babe; huge in power, huge in blind obedience; a dull metal monster of obedience; a hideous horror—in destructive energy crushing all alike, as its maker gave it only one element of soul, and that is *to do*!

Aye, take war or any other great source of injury: none beget more horrible and definite injuries than do railways. For death is in their wake, death comes in all of its phases. Yea, death swifter than any shadow and far shorter than any dream. Yea, the railway is the wretch that does the injury in its ponderous energy, its swift execution, and with

its millions attendants thrive in wounds. Wounds upon railways are indeed many, little and great, and of any and every phase, the incised, the contused and lacerated, the punctured and penetrating, the poisoned, burns and scalds in every shape; and at times every character of wound above enumerated is to be found upon the body of a railway victim. Yea, 'tis bad enough to lacerate thy flesh, tear thy muscles, grind thy bones, and yet have railways inflict injuries upon thy brain and vibrating nerves. For oft it is that emotional elements in the infliction of injury affect the acute sensibility of some as to make woe more woe. Yes, those emotional souls who mould their feelings to act like pith balls at the touch of electricity, whose acute sensibility of nature permits nerve impression to run riot and like a high-heated, thin glass ball, when touched by zero, flies into almost imponderable elements. Thus it is every tissue, every element of tissue and injury are inflicted by the railway—neither body nor soul spared. Yes, 'tis said that a fly, a mosquito, a grape stone, or a hair may kill; but 'tis not *may* with the locomotive and cars, but will, and does. Yes, yes, yes! indeed I have seen many a victim of the rail, and I can say with truth that I do not remember to have seen a single coward amongst this many when in the presence of death. Railway men die as they live; they accept the inevitable as they have accepted all discipline; if it must be it must be, and that's the end. Yes, and oft as I have met death in these men, the dignity of their bearing, their calm resignation, and their unflinching courage has been a source of wonder and admiration. It leaves the impression that human nature is in some manner God-endowed to meet with due dignity the surging of life through the gateways of death.

For oft has come the thought that grave, profound and violent injury makes many men heroes in the presence of death. Yes, you may study the pages of history, depict the grandeur of death, of the world's good and great, but death is the pre-eminent domain of democracy; and the railway servant meets death as bravely, as nobly, and as grandly as any man. For this little world of railway service has in it naturally the philosopher, moralist, besides abundance of manhood and courage; for all of these are not confined by space, domain, or vocation. To me there is in the general personnel of men in the railway service the highest intelligence, the most intense and acute activity. They have in their midst sound philosophers, truly sensible moralists, and men who are filled with audacity, push, energy, common sense and the strongest elements of every phase of thought which exists in the world's domain at large. Railway service is a vocation of action and contact; it is deep in human nature; 'tis a vocation overflowing in goading elements of education; aside from this fact, the railway is a wonderful "mixer;" a medium of communication which brings the highest and the lowest in contact. As an educational factor for the masses of mankind 'tis better for them than even books; 'tis as good as the sweet, expressive face of a mother when she teaches the babe the moving thoughts by her face's ever-changeable by-play. Yes, truly, my life as a railway surgeon has shown deeply the varied phases of life, and that, too, amidst surroundings as tragic as tragedy itself, and as full of pathos and comedy as any sphere of action. Well, well, well! I indeed can well remember my first work as a railway surgeon. I started out with a full quantum of youthful zeal, quick response, and easily-moved sentimentality. I was

quick to notice any and all things which had a romantic or a ludicrous tinge; I was professionally and assumably grave. I strove to act my part as best became a gentleman who followed the serious business I was in. I earnestly endeavored to help and console the injured, advised and felt deeply for the afflicted family, and was particularly conscientious not to interfere with the religious and other beliefs, but to act my part solely in the role of an earnest, zealous medical attendant.

Woman with me at that period of my life was indeed an adored, an honored object; and if I ever took anything deeply serious, she certainly was taken in the most serious light, and entirely different from what she was in reality. Yes, in my heart I say, God bless her. My earlier thoughts made her an unnatural being, but my more matured thoughts have made her more natural; and again I say God bless her, for she now to me seemeth sweeter than ever. I never will forget upon once in my earlier days of being called to see a gravely—yes, a deathly injured man. As I went in the freight room of a station house I saw a weeping figure kneeling at the side of a rough car door, on which was placed the injured man. I examined him and soon found that the bell of the sepulchre was even then ringing for him. As soon as I announced that he was dying, the kneeling figure straightened up and brought to view as sweet and as handsome a face as I ever beheld. She cast her eyes heavenward. Her eyes were large—yes, veritable twin orbs of beauty, superlatively brilliant in the intensity of her feeling—and from their quivering lids tears as brilliant as the stars or flitting diamond dropped upon the rose-hued skin of her cheeks. That face to me was then the most beautiful picture of sorrow I had ever beheld. From the graceful forehead to the shapely and quivering chin 'twas an expressive thing of beauty and sorrow. Then, with a voice as sweet as the sigh of an angel, and as touching as the ravishing warmth of love's first kiss, she cried: "My God! my God! can it be? Oh, my darling! oh, my darling! oh, my poor darling! Oh, my poor, poor Gem! Heavens! I cannot stand it. I will die, I know I will die—yes, and I want to die!" Then, with an intensity that frantic grief can only give, seized his begrimed, disfigured and bleeding face between her hands and showered upon it numberless kisses. Her tears fell in streams; grief shook her frame; then in her agony and despair this sweet, beautiful, mournful thing fell in a faint to be carried from the presence of her sorrow. Heavens! all the day through after this occurred I saw that face; there unceasingly flashed before me those wonderous eyes, glorious orbs of ravishing beauty; yes, that sad, handsome face and her sweet, pain-tossed voice haunted me all the day through.

Yes, I even mourned as though I had met sorrow myself. This touching scene stayed within my emotional soul until a certain thing happened. It was, I believe, some eight days thereafter a fellow-workman of Gem's came into the office. Naturally, I talked to him about Gem's death and dwelt somewhat lengthily upon the intense grief of Mrs. Gem.

"Well," said my friend, "Doc, her grief didn't last more than a minute. Old St. Peter's ink hadn't hardly dried from putting Gem's name down on the pay-roll before Gem's widow was sure acourting. Why, of course, Doc, I thought you had heard that she married. Yes, married the lawyer; you know him" (a talking brakeman, so nicknamed by his

fellow-workmen, owing to his profuse vocabulary); "married three days ago, and now she is billing and cooing like a well-paired dove on a holiday. Oh, well, I guess not! the lawyer has got a good thing—three thousand dollars in cool cash—that's money from Gem's life insurance—no kids, and a pretty piece of calico as you want to see. Pshaw! he's living on Easy street, don't you forget it, Doc; he has stopped braking already, and going to start a gin-gin boudoir. You bet 'twas quick; made connection without any miscoupling. Yes, she cried well, but she's a daisy; but a woman's salt-drops wags more men than they do lamb's tails."

Tears, brain-made drops from eyelids' restless, quivering wings,
 Glinting orbs, vanishing globes, tremulous glow of soul's true feeling—
 Woman's tears, psychic streams fresh from depthful center of soul;
 Emotion's will, feeling's thrill, aqueous enigmas of suggestive mould.

Well, well! we've all got to learn, and I never knew of any one who had learned too much; but the more I learn about woman, the less I know. But I agree, as a general thing, with Aristotle, that "learning is an ornament in prosperity, a repose in adversity, and a provision in old age;" and, heavens! this to me particularly applies as regards woman.

Knowledge of woman by study must be won,
 Such knowledge is ne'er entailed from sire to son.

Occupation is a rare trainer; it is the efficient power behind a special skill; and in no vocation that I know of is it more true than in railway service. Merit is an irrepressible thing which in railway service rises to view in surety and as plain as the markings on a semaphore. Indeed, if well studied, there is a constant source of wonder regarding the education of the five senses in railway men; its extent of development serves to truly indicate its capacity. Here's the engineer of a locomotive. As a general thing, they assume more or less of a type in appearance, generally possessing strong, compact, well-knit frames, bulging in muscles; faces are firm, well-set determination. As a general thing, they have faces of well-marked strength; no indefinite lines wrinkle the contour, but lines deep and positive. He is a creature of reserved power, concentration, activity, and pronounced action. You would naturally think that this man's nervous sensibility was rather dull than being exalted, but you will find it as a general thing that they are instantaneously responsive to the slightest stimulus. Yet 'tis true that no one has finer trained senses more quickly responsive than he has. No housewife ever made has nostrils keener to smell, eyes quicker to catch any unusual element, ears that flash sound to responsive brain. His eyes gather in minutia and detail with marvelous celerity; every nerve in his body has been slowly but surely educated to respond in an instant's call to the deep needs of his calling. All of this comes from self-protection; and self-protection still in these days stands as nature's oldest law and makes all men handling doubtful and dangerous power exercise every function with well-studied diligence. It is said that the brain is a mass of nerves in the aggregate, and that all nerves are essentially brain-like in character, and that their only difference is in the size

of the mass; and it seems to me that in the cultivation of nerve sensibility in the engineer, that he has petty brains all over him which instinctively interpret physical effects.

Again, the engineer has so educated his hearing that he can hear readily amidst the most ponderous noises—hear a seemingly small errant clink of a piece of machinery which would be impossible for the normal ear to hear; see objects and determine their character with wonderful certainty, even when they pass him in a flash. His nostrils have become so educated as to enable him to determine with unusual celerity the smell of a hot box or a drop of attar roses. Yes, indeed, if I could only remember them all, I could tell many remarkable stories emphasizing the development of the special senses in railway men. A superintendent happened to be on a locomotive while in transit. He was sitting in the cab opposite to the engineer, when the engineer suddenly spoke up and said: "I smell a hot box; 'tis near the middle of the train." Nothing more was said, when, shortly after this, he again casually remarked: "I smell another hot box." Upon which the superintendent said: "Nonsense; how can you smell two hot boxes at one and the same time?" "That's easy," said the engineer, "I can smell the hot, greasy smell of the first hot box, for that's got black oil in it; the other hot box has dimick in it, and dimick, when 'tis hot, always has the smell of burning rubber." Upon investigation it turned out to be true. Yes, indeed, the study of mentality in any direction is always mixed with peculiar and interesting mental states. It has always been my custom to talk with men about their business generally; then there is no effort on your part to interest them, for they simply become interested in the stories of their pursuit, hence both parties are easily interested. Many of the stories that I have heard about this or that engine being hoodooed in fact, about locality, bridge, trestle, or other material things being persistent and fated in deathly accident. Yes, to me for a long time it was a strange thing to hear the stories related by firemen concerning their engineers. Many of these stories pointed to the fact that there was some unusual mental condition. I had become thoroughly acquainted with an engineer, particularly a man of unusual intelligence. We had been conversing on the subject of hypnotism, when I said to him that a certain fireman had detailed to me in the stories about a certain old engineer who had indicated a peculiar mental condition several times, and generally took place at the same spot on the road. "Now," I said to him, "it would seem that as a general thing, engineers are in the habit of, for self-protection, gazing at the track intently in front of their engines, in order to see that there is no break in the line of rail. Now, I want to ask you, whether or not you have not felt at times as though you were far away—distant in mazy thought—completely oblivious to your immediate surroundings?" "Yes," said he, "this is particularly the case on night runs—long tangents. I have felt just as you express, and what I would think would be the same as a hypnotized person would be."

It is the concentration of gaze upon limited space, along with suggestion, which produces hypnosis; it is the concentrated gaze upon the rail by the engineer which produces upon him an auto-hypnotic condition. In fact, every element is conducive to this condition of mind. The engineer sits upon his seat, holding the lever; gazing out of the window with concen-

trated gaze ahead of him, he is muscularly inert and for the time-being is a psychic creature. The fireman is constantly passing from cab to tank in order to put coal in furnace, hence the nature of his business keeps him in action and wide awake; and if it was not for the fact of the imposed duty of the fireman making him alert, there is no doubt to my mind but that auto-hypnosis would cut a considerable figure in the history of accident. In fact, here is where united action of the five senses of two men act constantly for the protection of one another. Most all of the employes in train service are marvels in nerve education; it can be safely said that it is a wonder when errant machinery is not discovered. Yes, indeed, this inherent motive of self-protection and impelled education is far better than any mechanical device. It has been said that great and sudden changes, though for the better, are not easily borne. This may hold good in the vast majority of things, but it certainly has not been true as regards the changes which have taken place in surgery.

Aye, indeed, it is glorious and gratifying to see the improvements in surgery in twenty-three years; for, almost like a heaven-bedecked dream, the horrors of trivialities—I mean trivial injuries leading to death—have passed away. Heavens! shocking indeed was the by-play of poisoned wounds; how rife they were when I first commenced. The insignificant beginning of some slight injury bulged into shocking, deathful tragedy from blood poison; then a crushed limb invariably meant amputation, hence cripples became numerous and constant. Thanks to the God-inspired brains of Lister and Pasteur, injuries are now treated almost painlessly and with certainty of effect. Hideously crushed limbs are now saved if but a blood supply exists. Yes, thousands of individuals, gravely injured, are now living uncrippled, and as monuments to the efficiency of aseptic and antiseptic surgical treatment. Surely, there is not now one amputation where we formerly had twenty; suffering has been lessened; in every phase of the treatment pain constantly avoided in the most ready manner. Even with the rapid pace in railway improvement it has not passed the wondrous improvement in surgical treatment. Here, indeed, progress did not depend upon the bounty of nature but upon the energy of man. Organization is the soul of any effective service, and none more so than in railway service, for every step in its course is directed by brain; system and celerity are the motors, for chance has no voice in railway management. A wondrous organization controlled by brain, guided with the aid of a series of great vibrating nerves which brings distance to actual contact for thousands of miles in an instant's time; yes, these throbbing, vibrating nerves flash potent intelligence quicker than oral utterance. This railway brain is responsive and effective—a throbbing, living, active thing of rapidity and fact. Yes, yes, indeed, I well remember when I first commenced as a railway surgeon necessity called the surgeon; no system existed; necessity was ever the immediate fact; whatever came handy was brought into immediate use. Yes, I have seen a goodly number of men brought to me on car doors, uncovered, bleeding and filled full with combativeness and drink. Yes, the injured man's fellow-workmen in their misleading sympathy oft used whisky to intemperate excess, giving it in unstinted quantities, and not infrequently the acting cause of death; for a heart which, owing to the shock, had already lost its

force was now striving through rapidity of motion to make up what it lost in force, and stimulants being poured down the injured man's throat simply made his heart beat itself to death. All of this is now different. Whisky, unregulated, is a poison. In shock, pure hot water or coffee are infinitely better. The chief surgeon of a railway hospital department now guides and governs the handling of the sick and injured. Local surgeons are stationed upon every fifty miles of road; rule and regulation, system and order, celerity and dispatch, characterize the handling of the injured railway employés, and it is fully up and abreast with other executive work of the railway. Reports of every case of accident is immediately sent to the chief surgeon's office. Well, 'tis hardly necessary to go into detail, but it is strange to note how, in the filling out of local surgeons' reports in accidents, they give almost a current history of surroundings and circumstances: thus these reports tell whether the injured person is an employé, trespasser, or passenger, age and social condition, manner of injury, by what particular part of the machinery, what part of the body, what the injured person says was the cause of his injury in his own exact words, the character of the weather on the day of the accident, at or near what station, the proximity of the accident to a mile-post, trestle, bridge or telegraph-pole, the dialect of the parties engaged, condition of party, whether drunk or sober, the existence of labor trouble, the hanging of a man by a mob, homicides, or whether the party committed suicide or not; in fact, these reports give almost a current history of events such as are likely to occur during a year.

Yes, yes, indeed, nature is very deep—I mean human nature; and in my school-boy days I remember an old Greek proverb which ran thus: "You may cast out nature with a fork, but it will return." I remember my uncertainty, too, as to whether the fork here mentioned was a table or a pitchfork—not knowing at that time that you might crush man all to pieces with railway wheels and still his nature will not down, for it shines out as strong and as bright as ever. Yes, nature is deep, and as definite and as well-rounded an entity as life itself; far more positive and frigid in outline than the pyramids of Egypt, and acts its part with inevitable certainty. It is particularly deeply and conspicuously manifest in the case of personal injuries; nature, God taught and God endowed, is stronger than all education, for the torn muscle will quiver, the ruptured blood vessel bleed, and lacerated nerve pain. Oh, pain, what a definite mystery and still more definite actuality you are! Pain! our only cause of suffering, whether a physical rupture or goad, or a soul's distress; aye, the wage and penalty of man's creation, being and life. Yea, pain, which touches all life and only stops with death; for man's nervous system marks the most definite things in life, and as well marks those interminable lines where man wells into existence or drops into death. Well, of course, violence is ever the true begetter of pain. I do not believe there is any phase in the whole life-history of accident and injury presenting so many strong, inevitable consequences and actions as are presented in railway injuries. Through our brains and through our nerves do we have feeling contact with the outside world; if injury be profound enough, as in crushed limbs or other parts, we find a constant part acted ever the same upon injured persons. The skin is cold and pale, the heart beats

quick and weak—this ceaseless organ is now shocked and dazed: it strives, like a belated thing, to make up in rapidity of beat what it has lost in strength—the breathing becomes labored and halting, a death-like, sickening feeling wells o’er the frame, the throat and mouth are dry, the voice husky, the eyes seem sunken and lusterless, the intelligence is dazed, confused, death-touched, relaxation seizes every part of the soul and body.

Mental emotion affects the entire system in as positive and as grave a manner as the most profound physical injury. ’Tis natural where we see torn, lacerated, crushed and bleeding parts to expect death; but to see death come where no visible injury is manifest, ever presents elements which are shockingly unreal. Yes, it is indeed true that it is on railways where we most often see combined mental and physical shock. Emotion is the base of life’s sweetest pleasure. Anon, it becomes life’s most hideous work, and as inevitable death as total ablation. For ’tis ever constant truth that men are killed with as much certainty through their souls as through their hearts. Nature can only suffer so much; merciful construction has drawn the limit in this body of ours, for we can only bear so much pain, be this in the shape of physical injury, mental shock, or when combined—combination ever means inevitable death. Why, yes, let me see—no, I certainly am not wrong, but rather underrate, when I say that in my twenty-three years I have seen, certainly, several hundred human beings die from shock and collapse in railway injuries. Shock is a profound disturbance of the central nervous system. Yes, a profound and deadening commotion of cellular action. Collapse is nothing more than an utter loss of all nerve response and force. Well, well! ’tis natural that tragic incidents prod our memory, for oft it is that their outline is marked in blood and grewsome sad change. I remember well the sad fate of J. D., and if I but tell it aright it will truthfully depict the great majority of cases which die from profound shock. J. D. was a bright and prepossessing man, whose bustling energy, hearty way, brave course, and kind, big-hearted nature made him a general favorite. Never idle, and, strangely unlike the majority of railway men, never indulged in gossip; and, as a fellow-workman said of him: “In the years I have known him he never took woman’s name on his lips trivially; no one ever heard him speak harshly or impolite or impatiently to any woman or lady; and, indeed, no braggart ever faced him that would dare do it again. Fear he seemed only to have for woman and the aged; and as regards his duty, certainly no one would sooner uphold the weak and defend the oppressed. He was charitable to all—a man made for a leader, and made for a better destiny.”

He had risen to the position of a passenger conductor; had saved his means, bought a little home and married, and was the proud possessor of two children. It happened as he was passing in the yards along a track he saw an engine ahead of him, when he stepped over to another track to be immediately run down by an approaching train. Both of his limbs were crushed close to the hip-joints. When I arrived he had been taken to a house near by, and through the thoughtfulness of the lady of the house a clean, white sheet had been thrown over him, covering all but his neck and face. Nay, this is not said in any other feeling than that his condition was one which, to the unversed, was a complete enigma. Any man who had not gone through this experience would have viewed him, as he

lay there, as being but slightly hurt: his countenance was bright, clear, and pale; his eyes alert, dancingly quick, and almost intensely expressive, yet such as not to suggest for an instant the sad intensity of his injury. As I entered, recognition was instantaneous. "Why, hello, doctor!" in a voice loud, brisk, strong and concentrated. "Pshaw! what did they bring you here for?" "I am not hurt much. See my arms are all right, and my legs, too. Why, old man, don't look so worried; I will get through all right; this is all foolishness. Here, Jim," to a companion, "run up to the house, and don't let anybody get there before you do, and tell my wife that I am a little hurt, but I will be home soon." His nature sparkles in quickening, quivering glow; a word to this one, and advice to that one; every sense fully alive and active, except the consciousness of the extent of his extreme injury. Intellect and psychic perception unphased. Yes, complete; and yet his condition is almost as antithetical as the Kaffir proverb, which says: "The wonderful and improbable have collided." Thus life is defined as the time in which the human soul and body are united. Death is where we have extinction of bodily life. Now, then, right in this case this human soul is as plainly separated from this body as almost in complete death, for this man only lives in his brain. Yet life he has his heart, it scarcely flutters; 'tis as but where every bit of his blood that is living, every bit of his vitality, has left his body to bide momentarily in his brain.

He is certainly dead, if death means extinction of bodily life. For true it is, that if there ever bides on earth, at any time, a true and pure psychic existence, this is one; for here, indeed, bides a living soul in a dead body. A strange anomalous condition is, indeed, his; and his spark of life has an indefinite and momentary stay. The very brilliancy in his spark of life only insures its rapid subsidence and extinction. But stop, now, I pray thee; come closer and note carefully his countenance: the paleness has become brighter; large drops or beads of perspiration now hang quivering on his brow, and then coalesce and almost become a stream. Note you, now, how shallow his breathing—his chest scarcely moves; for the first time anxiety seems manifest upon his face, when suddenly he says: "Here, here! turn me over. Oh, please do that!" "No, no! you had better lay quiet for awhile." Then like a child he pleads; with a voice rhythmed in sincerity and expectant conviction he begs; this being unnoticed, he now commands, then come threats. Suddenly he cries for water; it is given him. "More water!" he says. "Oh, my God! I'll die unless I turn over. I am so tired, so tired." Here an effort was made to turn him, when he says with a sigh: "That gives no ease; that's no better; more water." He now unconsciously vomits, and ere his lips are dry instantly asks for more. Yea, sensation has ceased with lips, mouth and throat. Water, to him, cannot slake nor ease his deathly thirst. Now get you closer: notice that his eyes have lost their intensity; his voice is not loud, but husky; as you stand and gaze at him you will see the alæ or wings of the nose move as he breathes like a solid, white mass. Yes, yes; indeed, of all the signs that I have ever viewed upon a dying face, none are more infallible, as regards the approach of death than the white, solid mass moving of the wings of the nostrils. The end is very close. Water called for again and again, and spewed out

as fast as given. His chest is motionless—he now breathes with his throat; his eyelids spring asunder; a spasm comes and twists his head to the side into the pillow; a gasp, a sharp, quick convulsion, and death is come. Truly, the brain of man is but a wonder, an unceasing wonder, from cradle to the grave. Yes, in its every phase, strange. Again, now, how delirium comes in its strong, deep and marked elements. I will never forget poor Mack.

He was a hostler; yes, a herder of engines, a good Christian, a zealous Catholic; known by all as being unusually devout and free from profanity. He had been cruelly crushed under the wheels of an engine, and knowing he was dying I sent for the priest. He, the priest, was conducted into the room to give Mack extreme unction; he had not been in the room long when he suddenly emerged, looking absolute mad and indignant. "Why, doctor," said he, "this is an intolerable brute; I am not called upon in the nature of my duty to listen to such profanity. His mouth is filled with oaths; he has cursed and reviled God and man; he has cursed me and told me to leave the room. Such profanity my ears have never before been shocked with; 'tis, indeed, horrifying. "Aye, Father," said I, "this poor soul now needs your prayers more than ever; and if God ever made a pitiful object, this poor maimed and crushed man needs your pity more than your condemnation. No man in any insane asylum is more justly or more deeply crazed than he. Yes, Father, pray your best, for this man's mind has gone in his great and pained suffering." The Father returned, and, like the good man he was, prayed devoutly and willingly amidst the most hideous oaths and curses, knowing that they were uttered by a poor shocked and ruined mind.

Poor Tim S. had played with a glass or its handle so often that he once took o'er too many drinks, and, in a befogged condition, was run over and deathly injured. Death came, but not before his delirium. In his half-conscious state he recognized the priest. A thought came to his brain and stuck there, and never left till his death; for, to any and all questions put to him by the priest, there came from him but a single sentence, and that was, "I am a railroad man, won't you forgive me?" This repeated innumerable times, for his brain was like a wheel with a broken cog—it needed time to strike the cog; and when it did strike this cog it came out in pleading, mechanical and discordant tones: "I am a railroad man, won't you forgive me?" His brain responded with each slowing beat of the heart, and its mechanical repetition produced a monotonous and ghastly effect till death stilled it.

Truly, the human frame, under certain conditions, has a resistant power which seems to be almost miraculous; yes, to me, it has often appeared that the construction of the human body is perfection as a mechanical device, and rendered additionally resistant by a quick, active and responsive brain. Heavens! I have seen men whose resilience was more than the equal of steel. Man's skin, bright, yielding and elastic, would out-adamant adamant itself, and, seemingly, the most protectively resistant thing on earth. I remember to have treated a man who, by his own powerful, physical, muscular system, derailed a train of fourteen cars and escaped with only a broken thigh and a bruised body; and if you doubt this, I can produce the man and the witness, but not the cars. I was called

to see a brakeman, and expected to see a crushed limb, as I was told that the wheels of a tender of an engine loaded with water and coal, which must have weighed some eight or ten tons, had passed over his leg. After which I duly inspected and found only a simple abrasion on what he (this brakeman) called his "shin-bone." The engineer and the fireman of the engine both averred with all due and serious solemnity that they had seen the forward wheels of the engine-truck pass over his leg, and that the engine was so tilted as to almost derail it. In any event, this adamant brakeman limped about for the rest of the day, and was at work the next day. In another instance corroboration was complete and decisive, where a brakeman was knocked down by the front wheels of a heavily loaded coal car, the wheels of which passed diagonally over his thigh, and, as explained to me by the yard-master, must have weighed twenty tons. Upon examination there was plainly the marks of the flange of the wheels. This Bessemer gentleman was confined to his bed for a week. When I happened to run across him on the street, he sported a new stove-pipe hat, a moderate limp, and, as he said, "a jim-dandy jag." I had the night before examined a yard switchman, found him uncertain upon his legs, advised him not to go to work until he got better; the next night he was brought to the office with his left arm and left leg crushed off close to the joints.

He was one of those men of well-condensed and well-knit appearance; solid in every element of his appearance; a black, swarthy face of determination and combativeness. Definite lines marked his face's surface in no uncertain way; scars here and there were silent histories of previous trouble and the wonderful healing power of nature. "Hello, Tom," said I, "you have disobeyed me, and you see the result." "Yes, Doc, I am done up bad, but there is no use of crying over spilt milk; is my arm hurt much?" I then examined, and said: "Yes, Tom, both your leg and arm must come off." "Well, old man," said he, "had I known that my arm was gone, my head would have been under those wheels as sure as h——. Cut them both off, Doc, and I will fit the coffin better." This man got well, compromised with the company for ten thousand dollars, and ran through this competency with desperate ease and celerity. He was ever a marked cripple. Aside from this fact, he was in many ways especially strong mentally. From trading lead-pencils he was finally led to training birds. He slowly evolved a scheme wherein gambling constituted its basis, and made money rapidly as a consequence. These innocent birds, of whom none could talk more feelingly, were taught to aid him in his gambling, and in summing up the result he said to me: "You bet, Doc, I gets a plenty; yes, dese green fools and jays and country grays gives me plenty. I pockets the stuff and keeps it." He was an ingenious individual, and came to me once and in a grave, plausible manner said: "Doc, I don't need much to start this bizz, but you bet there is money in it. You see, Doc, I seed a fellow out in Kansas; he's got both legs off and his left arm off; then there is anoder fellow here in town what's got both legs off to his rump, and he only walks with his hands and what he sits on. Now, den, I've got one side of me cut off, so I just advertise and say: 'Come one, come all, and see the great curiositv; here's a man what's sawed off all around, here's a man what's sawed off in the middle, here's a man what's sawed off one side, and dese three men has only as manv legs as one man has.' You bet she will pay, Doc, and if I does well I will 'divvy.'"

Unfortunately for my financial betterment, the show never materialized. Tom drops me a letter now from Bangor, Maine, then from San Francisco, detailing in very poor orthography, but in terse and picturesque description, how he is "gulling the jays and grays." Truly, a vocation which employs men by the thousands—yes, hundreds of thousands, and even in millions' realm—is a little world in itself, and as full of human nature as the great, big world without. Yes, to me the railway is a stage filled with quick-shifting scenes. Great nature makes the actors who work, strive, eat, and drink, scheme and plod, to act their part, as ordained by God. Come, come, my worthy self, 'tis late; an inch off of this next hour perchance may take more than a foot from this night's rest. Some one has said that the less a man sleeps the more he lives; and I would add, the quicker does he die. So good-night to reverie, waning fire, and roaring wintry winds.—WARREN B. OUTTEN, M. D., St. Louis.

PROPER FOOD FOR SCHOOL-CHILDREN.

By MRS. JOSEPH WEIR, of Webster Groves, Mo.

When I was informed of my subject for this afternoon, my first thought was, shall I tell my friends to do as I say and not as I do; as it is sometimes impossible to practice that which we would preach or to do as we would like.

I am sure all of us have little ones who have their likes and dislikes; and reason as we may with ourselves, if a certain food is distasteful to them, it seems an imposition to insist upon their eating it, for although they are but little folks, their world is as large to them as ours is to us, and their fancies as dear.

How much we regard the likes or dislikes of a guest, and strive to prepare that which pleases them! So it is the duty of a loving mother to strive to find that which will tempt the appetite of her little one and nourish him at the same time.

Food which is distasteful prepared in the usual way will, if varied, or made to look tempting, excite the curiosity of the little folks, and we will often be surprised by their appreciation of it.

In claiming the above it is not to be thought that the mother's good judgment is to be sacrificed to please the little one; but that same good judgment combined with a desire to please will work wonders.

We are only children grown up, and we all know how delightful it is to open a package from a friend or dear one which we know has been prepared with loving care and thought (how much pleasure there is in anticipation). So I would suggest, those of us who have lunches to prepare for little ones, or grown ones, to have a little surprise in store for them; the sandwich to be varied and to be wrapped daintily, and when possible some kind of fruit for the "afterwards," as my little ones speak of desserts.

Lunches at their best are poor substitutes for the meal at home, and

¹ Read at the meeting of parents and teachers at Webster Groves (Mo.) School, December 15, 1898.

whenever it is at all possible children should go home at the noon hour; not only is the food more inviting, but the going and coming are refreshing—and a change of scene is a rest to the mind.

Circumstances should be adapted to children and not children to circumstances.

Mrs. Rorer claims the apple to be the most valuable of fruits. She says: "It has been my observation, after most careful experiments, that both children and adults who eat freely of good, ripe, mellow apples, either raw or baked, and *with the skins removed*, are free from various forms of indigestion, liver trouble and constipation; a scraped apple is more easily digested than one partly masticated.

"The skin of an apple is no more desirable than the outside bran of wheat.

"The ripe, mellow peach is really the only fruit for children. The banana, in its true home, where it becomes mature before picking, forms an important part of the diet of the inhabitants. Many varieties, however, used there in an uncooked condition, will not bear transportation, consequently those which are sold in our markets are of an inferior variety, picked long before they are ripe or mature, and the ripening of which is almost a premature decay; they are exceedingly difficult of digestion, and children should never be allowed to eat the ordinary banana unless cooked. Baked bananas are very popular. Fried bananas, as well as all other fried foods, are to be condemned."

Candy, if it is pure, is good and wholesome. It is to be given in moderation and *only after meals*.

Beware of the candy which is dealt out to the children so liberally, either as a present or so much for a penny or a nickel. It is impure and injurious; its only redeeming point is in its coloring, and we all know what is employed to produce that.

Avoid the children eating between meals as much as is possible. The habit once formed is hard to break. When that hungry time arrives, if it be possible, try and divert the little one's attention until the time for the meal. And how much better it is then enjoyed, than if pieced out from one to another!

On the whole, it is to be recommended that a child's food be simple, well-cooked and of those forms of food best and easily digested.

Some fruit for breakfast, baked, stewed or whole, followed by one of the many cereals to be had (and just here let me say if oatmeal or rolled oats is to be used, be sure that it has been *cooked well*; by that I do not mean thirty minutes nor sixty minutes, but several hours, and over night, if possible. I first tried soaking it over night in cold water, but now find it much better to commence cooking it earlier. My double boiler is put on with the quantity of rolled oats I wish when preparations are being made for the evening meal; it cooks all evening and through the night, and again in the morning until time for serving it. The result is a delicious, creamy mass, and free from particles) then the cereal followed by a soft boiled egg or one of the many light articles of food that can be prepared so easily.

My little daughter who starts out to school every morning has taken nothing all fall and winter but a small quantity of rolled oats, cooked in

the manner I have told you, and sometimes a little toast. It worried me to think of the slight breakfast she takes, but I must confess she seems to be getting stouter and heartier every day.

Light and clear soups (home-made preferred) followed by a meat—beef, boiled, broiled or roasted; mutton next preferred (but avoid lamb, veal and pork); rice, potato or macaroni, with a green vegetable simply prepared.

Salads are good for children if they be light and of a delicate nature; for instance, celery, lettuce, and spinach. Mayonnaise dressing should never be given to children, the French preferred.

The desserts next, and they form a very important part. Mrs. Rorer says: "Cake should never be given to children; that even an adult should look upon cake and pastry as an evil." (Quietly to you, I do not agree with her there.)

The old-fashioned rice pudding, and rice in other forms, custards, brown Betty, etc., etc., are the only kinds of desserts children should have.

Supper, whenever possible, have simple; little folks rest better when they go to sleep with a comparatively easy work for their stomach and digestive organs.

When it has been necessary to have the cooked meal at night, I have found it a good plan to give the little folks their supper and tuck them away in their little beds. They are not then tempted to ask for those things which would not be well for them to have, but have had that which will bring sweet rest and pleasant dreams.

Alcoholism in France.—In the opening lecture of his course Dr. Debove sounded a note of alarm. He declared that alcoholism was present everywhere in France—in the towns, in country villages, and among all classes. The resources and strength of the country were impoverished by this vice. It was no longer a condition of acute and sporadic alcoholism; alcoholism was now chronic in France. That country, according to Dr. Debove, has the unfortunate supremacy of being at the head of all the "ethylic nations." The proportion of alcohol at 100° drunk amounts in Paris to 14½ litres per head, in Belgium and Germany 10 litres, England 9 litres, Switzerland 8, Italy 6, Sweden 4, Norway 3, Canada 2. This unenviable supremacy is on the increase, as it is in Belgium, the proportion in other countries being a descending scale. There are in France 500,000 wine shops; in the North of France one for every twenty-five adults; in the Seine Inférieure Department one for every twenty-two adults, in Paris one for every three houses, not counting the railway station bars. Dr. Debove told his hearers that no one escapes this epidemic; children, young girls, men, women, all suffer from it. In some parts of France nurslings are brought up by bottle *a l'alcool*. Dr. Debove calls upon the medical world by example and by carrying on a crusade against this invading tide of alcoholism to try to stem it.—*British Medical Journal*.

NEW YORK LETTER.

At a recent meeting of the New York Surgical Society, Dr. F. W. Murray presented a case of posterior gastro-enterostomy with Murphy's button for benign stricture of the pylorus. The patient, a woman, forty years old, began three years ago to suffer from indigestion; the most severe and persistent symptom was the pain. The vomited matter never contained blood. Her bowels were irregular, and the loss of flesh and strength was very great. Two years ago the pain lessened, but the vomiting became more marked, consisting of immense quantities of undigested food, relief following until she took another meal. In the spring of 1898 Dr. Murray found the stomach greatly distended, but no tumor. A stricture of the pylorus was evidently present; stomach contents were examined, showing hydrochloric acid normal, and the stricture was evidently of benign character. A gastro-enterostomy was advised, but was declined by the patient. In August, 1898, she entered the New York Hospital, and the doctor performed a posterior gastro-enterostomy, using the Murphy button. The pylorus was found to be much thickened and indurated, but there were no enlarged glands or adhesions. She was fed *per rectum* until the ninth day; the bowels moved on the same day; on the eleventh day the patient was sitting up in a chair; on the sixteenth day the button was passed, and on the twenty-first day she was discharged. Her bowels have since been regular, and she has gained from eighty-five to one hundred and fifteen pounds.

Dr. C. K. Britton said that in a certain number of cases the posterior operation could not be resorted to. Two cases had come under his observation where the malignant disease was far advanced, with much infiltration, glandular and otherwise; he had found it impossible to raise the colon with its meso-colon for a sufficient distance to do the posterior operation. In both these cases he had to resort to the anterior operation.

Dr. F. W. Murray, at the same meeting, also presented a case of intestinal obstruction due to carcinoma: colotomy, and subsequent resection. The man was forty-six years old; admitted to St. Luke's Hospital in March, 1898. Two weeks previous he was suddenly seized with cramps in the lower abdomen; there was no nausea or vomiting. The bowels had moved slightly every day, the movements consisting of hard lumps of fecal matter, and the stool was accompanied by bearing-down pains in lower left abdomen. This state of affairs continued for ten days, when constipation became complete and vomiting set in, consisting of greenish fluid and frequent gaseous eructations.

Upon entrance to the hospital the man's abdomen was distended, tympanitic, tense, with tenderness of pressure over the left pelvic region. By steady pressure upwards through the rectum, the finger came in contact with a mass apparently outside and to the right of the rectum. The patient was weak, delirious, with a temperature of 102.5° and a pulse of 120. Efforts to move the bowels by oil enematas proved to be ineffectual, so the

patient was anæsthetized and a left inguinal colostomy done, and a large amount of gas and fluid feces evacuated.

Four weeks later the peritoneal wound was securely shut off by means of iodoform gauze and sealed with rubber tissue, then the peritoneal cavity was again opened through a median incision. The sigmoid was found and traced downwards, and about its junction with the rectum a carcinomatous tumor, about one inch long, was found; it formed a ring-like contraction about the gut. The bowel was distended and hypertrophied above the obstruction; below it was contracted. Two and one-half inches of the gut were excised, and, after incising the meso-colon on each side, the two divided ends were brought together and united by means of a Murphy button. The patient was out of bed on the twenty-first day and is now all right.

In cases of bowel obstruction where he is unable to detect the site of the obstruction by palpation, Dr. Murray makes an incision about two and one-half inches long high up in the median line, and draws down the transverse colon; if this is distended, he knows the obstruction is on the right side; if it is not distended, the obstruction is on the left side.

At the annual dinner of the Sewanee Alumni Association, given at the St. Denis Hotel, Dr. W. M. Polk, dean of the Cornell Medical School, attacked the race problem in the South, as follows: "Do not allow yourself to question the negro's inferiority. He is inferior and cannot be otherwise. Nature revolts at attempts to change his blood. Cross his blood and witness the frightful diseases developed. Keep him as he is, in his own blood, and he is the most trustful, simple form of peasantry. The spirit of expanding Anglo-Saxon civilization proclaims the truth of race superiority. The Teutonic race is superior to the Slav, the Saxon to all. Educationally, the negro must be treated as he is in the South. You must adopt the same institutions here. Treat him kindly and firmly, but never as an equal."

The Manhattan Eye and Ear Hospital has again been the recipient of a small fortune, Mrs. Paton, in her will, leaving \$50,000 for that institution.

Sister Polycarpa, of the order of St. Dominic, who is said to be the only nun in the United States who ever held such an office, has been appointed postmistress at St. Joseph's, Sullivan county.

One of New York's magistrates has become emphatic in his stand not to permit witnesses to kiss the Bible. Recently, a young girl paid the penalty with her life, disease germs lurking in the filth deposited during a long term of service. Her lips were chapped and slightly bleeding when she took the oath, pressing her lips against a Bible which was filthy beyond description. Blood poisoning soon set in and death followed months of agony.

E. FRANKLIN SMITH.

308 West Forty-fifth street.

RAILWAY SURGERY.

The Wabash Employes' Hospital Association treated during the year 1898 a total number of 21,629 sick and injured employes, divided as follows: Surgical, 2,853; medical, 18,776. Total, 21,629. Prescriptions filled during the year 1898 were 44,185.

Hospital Department of the International and Great Northern Railroad Company has headquarters at Palestine, Texas. Their hospital at Palestine, Texas, is well supplied with every necessity, having two buildings, one used as a colored ward, the hospital proper treating the white employes. Dr. W. G. Jameson is Chief Surgeon, Dr. R. H. McLounud First House Surgeon, Dr. A. C. Lillard, Second House Surgeon. During the year 1898 this hospital department treated 830 in-patients and 6,831 out-patients—7,661 from all sources.

The Hospital Department of the Missouri, Kansas and Texas is under charge of Dr. E. F. Yancy, as Chief Surgeon. It is one of the best departments in this country, broadly extending the use of his department for the employe, meeting not only the praise and sanction of the management, but the employes as well. The following report gives an idea of the demands made upon and met by this department:

TOTAL FOR THE YEAR 1898.		1897	1898
Patients treated in Sedalia Hospital.....	1852	2359	
Patients treated in I. & G. N. Hospital.....	7	10	
Patients treated at Houston Infirmary.....	414	395	
Total number in-patients.....	2273	2764	
Patients treated at Denison Relief Station.....	3172	3262	
Patients treated at Trinity Relief Station.....	24	31	
Total number outside surgical cases.....	1367	1444	
Total number outside medical cases.....	2939	2942	
Total number of cases treated during the year.....	9775	10443	
SEDALIA HOSPITAL.			
Patients on hand January 1, 1898.....	70	57	
Total number admitted during the year.....	1782	2302	
Total number discharged during the year.....	1782	2300	
Total number of deaths.....	13	6	
Patients on hand January 1, 1899.....	57	53	
I. & G. N. RAILWAY HOSPITAL.			
Patients on hand January 1, 1898.....	0	0	
Total number admitted during the year.....	7	10	
Total number discharged during the year.....	7	10	
Total number of deaths.....	0	0	
Patients on hand January 1, 1899.....	0	0	
HOUSTON INFIRMARY.			
Patients on hand January 1, 1898.....	13	5	
Total number admitted during the year.....	401	390	
Total number discharged during the year.....	395	376	
Total number of deaths.....	1	3	
Patients on hand January 1, 1899.....	5	16	
Total number of prescriptions filled during the year.....	34,432	40,894	
Total number of prescriptions filled for S. W. & S. W. Railway employes during the year.....	122	91	

During the year 1898 the Missouri Pacific Hospital Department treated 5,609 in-patients and 23,635 out-patients, making a total of 29,244 treated from all sources. There were filled by the department, during 1898, prescriptions to the number of 105,367.

Dr. Geo. Chaffee, department editor of "Railway Surgery" of the *International Journal of Surgery*, deserves a world of credit for his efforts in the advancement of railway surgery. He has made a splendid department in that journal, and his efforts in the New York State Association of Railway Surgeons have been the means of producing many points valuable to railway surgery. Doctor Chaffee's personal character is an admirable one. He is unusually kind and gentle, deep in sincerity, indefatigable as a worker. His kind soul makes you admire and respect him. He is one of the few men who will ever grow, not only in the estimation of his familiar friends, but of the world as well. The *International* could not well replace him.

One of the best books yet written upon the relations of accident and injury of the nervous system has been written by Pearce Bailey, M. D., of New York. In our estimation, no book yet written equals it. Its arrangement is excellent; and to any one desiring a plain, complete and effective statement, Pearce Bailey's book is unexcelled. In our estimation, it is better than Page, Strumpel, etc. Part I. is a consideration of the organic effects of injury to the nervous system. Part II.: Functional effects of injury, considering the nervous disorders which most frequently follow railway and allied accidents; the traumatic neuroses, traumatic neurasthenia, traumatic hysteria, etc. Part III.: Malingering. Part IV.: Treatment. Its general arrangement and text are splendid, and the investigator of these subjects must add this most excellent work in his reading, if he would have the subject complete.

Hon. Clark Bell, the editor of the *Medico-Legal Journal*, the guider and maker of the Medico-Legal Society of New York, has ever taken a deep interest in railway surgery and deserves greater credit than he has received. He is rich in medico-legal lore, and his name will live wherever medico-legal practice is known. We know of no one who has done more in this direction. Nothing discourages him, but, faithful to his purpose, he labors on amidst difficulties, only to shine brighter and greater by his work. The extent and breadth of his knowledge is, indeed, large and dazzling.

Accidental Hernia.—There is no doubt about there being much confusion in the minds of surgeons concerning the relative frequency in which accident causes hernia, and anything which elucidates this point should be brought to the notice of all surgeons engaged in accidental surgery, whether upon the railway, mill, or other manufacturing plant. Well systematized ideas in this direction are of genuine value. The following is sensible and practical:

"C. Kaufmann discusses the question: 'When is an Hernia an Accident?' Which, owing to the local workmen's compensation acts in Switzerland and Germany, has been considerably debated both by surgeons and

lawyers in those countries, as it is likely to be in England. (1) The first condition for a claim for compensation to be allowed is the proof of an injury (direct or indirect violence), or, what is the same thing legally, of an exceptional strain occurring during work. The mere fact that the hernia appeared during ordinary work is insufficient. (2) It must be proved that the rupture in the first instance appeared suddenly, and was accompanied by such violent pain that work had to be at once discontinued. This specific pain is always felt most in the neighborhood of the rings, and there is tenderness to pressure there. (3) The clinical examination of the patient is of great importance, and ought to be undertaken immediately after the accident. Failure to consult the surgeon for some time is suspicious. Incarceration of the hernia is considered in Germany to be constant in every case depending on injury (*'hernie de force'*), and its absence to exclude accident. This point has not been settled definitely in Switzerland. Many cases are obviously old, and the claims can be rejected at once. In a freshly-acquired accidental hernia the following anatomical relations must be present: The hernia must not be larger than a hen's egg, and must be either interstitial, or project only partially through the external inguinal ring. It must be reducible only by taxis, and must not return spontaneously into the abdominal cavity on lying down. On standing up after reduction it usually does not return except on coughing or straining. There should be no hernia on the other side, and the inguinal ring and canal should barely admit the finger. The simultaneous acquisition of a double hernia, or of a single one with a well-marked hernial predisposition on the other side, makes it unlikely that accident was the cause. Advanced age in a man who has done heavy work for years is also against it. In Switzerland and Germany the courts have decided that a hernia which can be kept up by a truss with certainty takes permanently ten per cent. off a man's earning power; one which, in spite of truss, precludes heavy work, fifteen per cent.; and one with further disadvantages, twenty per cent. A reduction is made in the compensation for existing hernial predisposition, either from the presence of a congenital hernial sac, which can seldom be diagnosed, or from the easily-recognized, wide-based conical hernial sac described by Kocher (*Epitome*, vol. ii., 1898, paragraph 106). The writer reckons that among the 200,000 artisans in Switzerland, twenty are compensated for hernia as being due to an accident annually, and ninety-two per cent. of the claims are disallowed as frauds. As a result, employers will not now take men into their service without a medical certificate of freedom from hernia and from hernial predisposition."—*British Medical Journal*

SURGICAL SUGGESTIONS.

The Treatment of Harelip and Cleft Palate.—This much-discussed topic continues to be the subject of a good deal of doubt in many minds as to when and how to operate for the various conditions that present themselves. Many of the procedures necessary are entirely within the range of the general practitioner, but there always remains a feeling of hesitation as to the methods most advisable to employ and the most suitable time for operation. Towards solving such doubts an authoritative review of the recent literature of the subject and conclusive statements as to what seems best in the therapeutic suggestions that have been recently offered by various writers will be of the greatest value to the busy practitioner.

Such a review of the treatment of harelip and cleft palate is given by Dr. J. Chalmers Da Costa, in *Progressive Medicine*, the new quarterly review of advances in medicine, of which Professor Hare is the editor. From it we gather that the tendency is more and more towards early operation. The third or fourth month used to be considered the earliest suitable time to operate. Murray now counsels operation in the fourth week; Mumford and Heath think it should be undertaken not later than from the sixth to the eighth week. Where cleft palate exists it is not operated upon so early. The harelip is operated upon alone, and the persistent pressure made by the closed lip helps to lessen the gap in the growing bone. The operation on the cleft palate is put off for awhile, but this, too, not nearly so long as it used to be. If the closure of the defect is delayed until the child has learned to talk, the peculiarities of speech, especially its offensive nasal character, will never be corrected. The authorities are agreed, then, that a cleft in the soft palate should be closed about the sixth month, and in the hard palate during the second year.

The practical suggestions collected from the recent literature of the subject by Dr. Da Costa are very valuable to the ordinary practitioner. Space will permit us to give but a few of them. The use of the knife in operation rather than the scissors, because the latter crushes tissue more, leaving its vitality impaired, especially at the edges where this is so important for subsequent union; the avoidance of pins or heavy sutures in securing proper apposition after the operation is advised, though these are faults of technique in this matter that we fear have been so ground into the present generation by text-book and teacher that failures of union due to these crude, early methods, will still continue to be frequent. The suggestion by Mumford as to anchoring the nares with shotted wire will remove a very common cause of failure due to the child's inevitable tendency to "turn up its nose" at and after the proceedings.

In double harelip it is advised to remove the intermaxillary bone by subperiosteal operation a week before the operation on the lip. If left it is liable to undergo necrosis. Its removal leads to some flattening, but this will not be great if the bone be removed by subperiosteal operation, and if but one side of the harelip be operated upon at a time. Among the

directions for the operation for cleft of the hard palate we note these pre-operative measures of precaution from Owen, which are sometimes forgotten, but of which the practical value it is easy to see: Never operate unless the child is in the best possible health; remove carious teeth, adenoids and enlarged tonsils before operating, and operate whenever possible in fine weather, so that the patient can get out-of-doors soon afterwards. The neglect to remove such ready sources of infection as carious teeth and those harborers of microbes, the irresistible tissues of adenoids and enlarged tonsils, is very probably the source of a good many of the failures in uranoplastic osteo resection.

Fractures of the Pelvic Bones.—The one complication to be feared, both during and after fractures of the posterior parts of the ilium, is irritation or injury of the sciatic nerve and persistent pain in this nerve. For this reason great care should be exercised in trying to keep the fragments accurately apposed while the dressing is being applied; and while lying flat on the back will probably be painful at first, this position should, if possible, be preserved, as the pressure upon the mattress will help to hold the detached fragments in place. I think it wise to warn the patients who have these fractures that they may have neuralgic pains during and for some time after the treatment of the fracture. I would advise active antilithic treatment for rheumatic and gouty subjects during their confinement in bed and for a short time after getting about, in treating these fractures.—DR. W. L. ESTES, *International Journal of Surgery*, February.

Urethral Stricture.—The virulence of the gonococci is weakened by remaining in the same soil where they have proliferated, and this is the reason why the secretion of a chronic gonorrhœa produces a milder form of this disease. At each relapse the gonococci from the inflammatory exudation are carried to the surface, and are thus eliminated; but after long continuance of the gonorrhœa the papillary body does not react any more, and the gonococci remain in it and also in the follicles, maintaining a prolonged and constant irritation, which ends with proliferation of the mucous membrane and formation of hard, cirrhotic tissue, which we know under the common name of stricture.—DR. A. RAVOGLI.

Appendicitis.—However light the clinical expression of appendicitis may be and how much it may appear to be in favor of a speedy temporary recovery, the operation is always justifiable. As the strength of the infection can never be known with certainty, from the beginning it appears to be wiser to take each appendicitis seriously. Among two evils the smaller should be chosen, and operation is the smaller evil.—CARL BECK.

Strictures of the Rectum.—According to the statistics from the large hospitals in London, strictures of the rectum in females are ten times as frequent as in males; hence, we can readily see how these strictures would be produced by careless people, particularly the lower classes of people, who never stop to think when they have a gonorrhœal vaginitis, but use a syringe which infects the rectum.—J. B. BACON.

MEDICAL NOTES.

Hæmorrhage as a Sign of Congenital Syphilis.—In the course of the description of a case of hæmorrhagic congenital syphilis appearing as a hæmorrhagic vesicular eruption, Dr. William S. Gottheil calls attention to the importance of otherwise unexplainable bleedings in infants as symptoms of congenital lues. They may be the only mark of the disease, especially at first; but they are almost invariably accompanied by a diminution of the coagulability of the blood similar to that of hæmophilia, and the case usually goes on rapidly to a fatal termination. Disease of the vascular walls is one of the commonest and best-known effects of the syphilitic poison, leading to hæmorrhagic discharges from the mouth, the bowels, the bladder, or the nose; to blood accumulations under the skin and mucosæ, or in the serous cavities and internal organs; or, finally, making the syphilitic eruption itself hæmorrhagic. The author emphasizes the importance of remembering these facts in the treatment of infants who have hæmorrhagic discharges or a hæmorrhagic eruption the cause of which is obscure.—*Archives of Pediatrics*.

Use of Saline Infusions.—Dr. Reilly, in the *N. Y. Medical Record*, summarizes a paper on the indications for the use of saline infusions as follows:

- (1) In all cases of severe hemorrhage, whether external or internal.
- (2) In shock, both simple and post-operative, it fulfills all indications.
- (3) In all toxic conditions, and here it should follow venesection; indeed, no agent thus far has compared with it in efficient uremic and septic conditions.
- (4) In all cases of poisoning due to vegetable or mineral substances.
- (5) In any pathologic state attended with feeble pulse, due to diminished arterial pressure.
- (6) As a last resort in cases of imminent death from any cause of an accidental nature.

The Wearing of Belts After Abdominal Section.—Patients who have undergone abdominal section should wear a well-fitting belt for at least two years after the operation, otherwise a hernia is very apt to form. I am aware that more than one distinguished abdominal surgeon has denounced the belt as tending to cause atrophy of the abdominal muscles. Personally, I do not think for one moment that it does; but even if it were so, a somewhat weak abdominal wall is better than a ventral hernia.—DR. CHRISTOPHER MARTIN, M. B., Edin.; F. R. S. C. Eng., *The Scalpel*, Vol. III., No. 36, page 376.

Absorption and Digestion of Milk.—A common time of administering milk with me, especially in poorly-nourished females, is in the morning, one hour before breakfast, the directions being that the patient shall lie

still for a quarter of an hour thereafter; it is often found then that instead of rising fatigued, with no appetite for breakfast, the patient gains in strength and enters on the day with a vigor quite unknown before. I also very commonly have weak females lie down in a darkened room for a half-hour nap after taking the milk at 12 and 5 o'clock. I could give many, many instances where the transformation of the patient by this simple procedure has been really marvelous. The soporific qualities of warm milk at bed-time or in the night are sometimes remarkable.—DR. L. DUNCAN BULKLEY.

Hemorrhagic Sputum.—Hemorrhagic sputum may be seen in: (a) Croupous pneumonia. (b) Pulmonary infarction. (c) In cardiac lesions producing marked stasis in the pulmonary circulation. (d) Violent paroxysmal cough (coming from pharynx or larynx). (e) Hæmoptysis, the expectoration being bright-red and frothy. Large quantities of blood may be spat up in erosions of blood vessels through ulceration in cases of pulmonary tuberculosis, bronchiectasis, gangrene, and sometimes in cases of malignant disease of the lung.

It is always well to make sure that the blood does not really proceed from the patient's gums.—DR. T. J. BOKENHAM, *Treatment*, Vol. II., No. 20, page 630.

Benign Growths of the Tonsil.—True papilloma of the tonsil is uncommon. Other benign growths are comparatively frequent. The latter are often of inflammatory origin and connected with enlarged tonsil.—YEARSLEY.

Disuse of the Bed-pan in Typhoid Fever.—The arguments in favor of the night-chair are:

(1) Less annoyance to the patient. (2) More complete evacuation of the bowel, and therefore less frequent disturbance. (3) The more natural position causes less straining, and therefore really less danger of either hemorrhage or perforation.

Only when the patient is unable to get out of bed is the bed-pan used.—DR. H. C. DRURY.

The Use of Hot Sand in Therapeutics.—The chief indication for the employment of these baths are: To diminish dropsical conditions, whether dependent on heart, liver or kidneys; in the absorption of pleural exudates; in the treatment of chronic arthritic troubles, especially arthritis chronica deformans, in which the severe pains are greatly lessened; frequently the exudates are so far removed that the mobility of the joints may be greatly increased. Excellent results have been obtained in sciatica, as well as in acute and chronic articular rheumatism.—GRAWITZ.

Treatment of Chronic Interstitial Nephritis.—High tension with low specific gravity and cardiac hypertrophy call for iodide of potash. Be careful not to lower too suddenly this high arterial tension. When polyuria is an annoying symptom, nux vomica with bromide of soda is beneficial.—DR. LARKIN W. GLAZERBROOK.

THE TRI-STATE MEDICAL SOCIETY.

Preliminary Program Tri-State Medical Society to be Held at Quincy, Illinois, April 4 and 5, 1899.—FORENOON SESSION—*First Day.* A. S. Mackey, Louisiana, Mo.: Tachycardia, Paroxysmal. James Moores Ball, St. Louis, Mo.: A Case of Brain Tumor Presenting Chiefly Ocular Symptoms. R. M. Lapsley, Keokuk, Iowa: Glaucoma. F. A. Boucher, Marshalltown, Iowa: Diseases of the Nasal Sinuses and Middle Ear as Seen in La Grippe. O. F. Pile, Memphis, Mo.: La Grippe.

AFTERNOON SESSION—*First Day.* A. E. Prince, Springfield, Ill.: Treatment of Adenoids and Turbinated Hypertrophies. J. C. Murphy, St. Louis, Mo.: Treatment of Endometritis. M. B. Ward, Kansas City, Mo.: Indications and Contra-Indications for Hysterectomy in Uterine Fibroids. Henry T. Byford, Chicago, Ill.: Curative Action of Ergot Upon Certain Uterine Myomas. F. B. Dorsey, Keokuk, Iowa: Uterine Fibroma. O. B. Campbell, St. Joseph, Mo.: Uterine Fibroma. J. J. Brownson, Dubuque, Iowa: Suprapubic Lithotomy. F. H. Martin, Chicago, Ill.: Treatment of Retroversion of the Uterus. Jos. H. Bacon, Chicago, Ill.: Results of Neglected Cases of Cervical Laceration. D. F. Monash, Des Moines, Iowa: Early Surgical Interference per Vaginum in Pelvic Inflammation. O. B. Will, Peoria, Ill.: Some Uses of Actual Cautery in Gynæcological Therapeutics. Francis Reder, St. Louis, Mo.: Abdominal Incision and Suture. T. J. Maxwell, Keokuk, Iowa: Some Uses of Esmarch's Bandage. Emory Lanphear, St. Louis, Mo.: The Latest and Most Successful Treatment of Tetanus.

EVENING SESSION—*First Day.* A. W. Williams, Quincy, Ill.: Strangulated Hernia—A Successful Operation on a Patient Eighty Years of Age. A. H. Cordier, Kansas City, Mo.: Diagnosis of Surgical Diseases of the Kidneys. Lewis Schooler, Des Moines, Iowa: Movable Kidney. A. H. Ferguson, Chicago, Ill.: Decapsulization of the Kidney for Special Pathological Conditions. A. H. Meisenbach, St. Louis, Mo.: Bone-Splitting—A Conservative Measure in the Surgery of the Hand and Foot, with Report of a Case. Geo. F. Hurlburt, St. Louis, Mo.: subject not announced. Edw. Borck, Red Bud, Ill.: Treatment of Fractures of the Thigh.

MORNING SESSION—*Second Day.* C. H. McGee, Unionville, Mo.: Oesophagotomy. J. F. Herrick, Ottumwa, Iowa: Nerve Exhaustion. S. K. Davis, Libertyville, Iowa: Self-Intoxication. F. B. Hiller, Kahoka, Mo.: Dietary of Infancy. Geo. P. Neal, Ft. Madison, Iowa: Professional Perplexities. W. B. La Force, Ottumwa, Iowa: subject not announced. M. S. Marcy, Peoria, Ill.: Uric Acid and Its Serious Results when Not Eliminated. J. E. Parrish, Memphis, Mo.: Status of Typhoid Fever. H. A. Leipziger, Burlington, Iowa: Gangrene from Carbolic Acid. J. J. Ochsner, Chicago, Ill.: Surgical Treatment of Habitual Criminals. W. H. Mitchell, Lancaster, Mo.: Application of Cold Water to Allay Persistent Vomiting.

AFTERNOON SESSION—*Second Day.* J. H. Coulter, Summittsville, Iowa: Tuberculosis Treated with Large Doses of Creosote. J. B. Murphy,

Chicago, Ill.: Tuberculosis treated by Surgical Means. Elmer Lee, New York, N. Y.: Pneumonia. J. T. Lambert, Farley, Iowa: Pneumonia. John S. Pyle, Toledo, Ohio: Pneumonectomy—Its Possibilities as the Future Treatment of Incipient Pulmonary Tuberculosis. Bayard Holmes, Chicago, Ill.: subject not announced. D. C. Brockman, Ottumwa, Iowa: Gall Stones. J. R. Hollowbush, Rock Island, Ill.: Surgery of the Gall Bladder. J. I. Skelly, Pekin, Ill.: Enterorrhaphy. H. C. Markham, Independence, Iowa: Intestinal Constipation and Its Etiologic Effects. F. B. Robinson, Chicago, Ill.: Pelvic Reflexes, Abstract. J. F. Percy, Galesburg, Ill.: Some Remarks on Appendicitis. R. H. Turner, Canton, Mo.: Puerperal Eclampsia. T. B. Ellis, Bethany, Mo.: Melano-Sarcoma, with Report of a Case. Jos. Geiger, St. Joseph, Mo.: subject not announced.

All communications are to be addressed to Dr. C. E. Ruth, Keokuk, Iowa, or to the secretary, Dr. Fowler, Dubuque, Iowa.

Manna.—A French investigator has recently published the results of research into the origin and composition of the manna of the Bible, which even to the present day the Arabs, when traversing the desert, rely on as a means of subsistence, both for themselves and their camels. He maintains that it is a kind of mushroom, which under favorable conditions of soil attains a considerable size, many specimens weighing a pound or more. It has an agreeable taste, and is slightly sweet. It contains 32 per cent. of starch, 14 per cent. of nitrogenous matter, 16 per cent. of water, together with salts and some other unimportant substances. When eaten freely, it is said to exert a laxative action. These statements certainly require confirmation, for it is usually supposed that the manna of Scripture answers in its description very closely to the tamarisk manna, the Persian *gas-angubin*, which exudes in June and July from the slender branches of *Tamarix gallica* *var. mannifera*. In the valleys of the peninsula of Sinai, especially in the Wady-el-Sheikh, the manna is collected by the Arabs and sold to the monks of St. Catherine, who supply it to the pilgrims visiting the convent.

New Books by Dr. Oliver.—Dr. Charles A. Oliver, of Philadelphia, one of the foremost ophthalmologists of this country, has just finished a translation of Ohlemann's Ocular Therapeutics, and of Donder's Refraction. These books deserve to meet with a large sale.



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It furnishes at once those elements of nutrition to counteract systemic waste—the OIL supplying **FAT**, the **PHOSPHATES**, **FOOD** for **BLOOD**, **BRAIN** and **NERVE**—not exhibited in any other preparation. Prescribe "**PHILLIPS'**."

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MILK OF MAGNESIA.

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NEW REMEDIES.

Euquinine.—In this new cinchona derivative the profession has an agent which, in the truest sense of the word, fills a long-felt want. For two years the writer has been experimenting with it in cases which indicated quinine, and especially in the practice of pediatrics. Medicine is the bogey of childhood—and of all medicinal bogies quinine is the *bête noire*; yet we find in cinchona one of our most valuable remedies—the specific of specifics in malaria. The intense bitterness of the cinchona alkaloids is responsible for the various patent and ethical quinine elixir abominations which assume, by excessive sweetness, to disguise the bitterness of a dissolved or suspended quinine. This excessive bitterness is likewise responsible for the coated pill which, with barefaced duplicity, argues the child into the belief that it is candy, until the child perceives the deception upon biting or sucking the sugar coating off. At the same time few children can swallow a pill as a pill. Masticate it they must, and promptly on tasting its contents they eject it from their mouths in disgust. A large percentage of adults are as unable to swallow a pill or capsule as a child; even a wafer is rejected by some, who courageously resort to the more or less elegant elixirs. Euquinine overcomes all of these objections. It is as absolutely tasteless as powdered chalk. It can be administered to any child with or without admixture of sugar or milk. It can be suspended in syrup in any desired proportion without giving to the syrup any additional taste. It is one-half the therapeutic value of quinine sulphate, hence must be given in double the amount to get the same effect. The physiological action is practically the same, though I have observed that it does not produce the characteristic head symptoms in anywhere near the same degree, dose for dose, that other cinchona alkaloids do, nor does it cause cardiac depression when given in large dose. A person with an idiosyncrasy to the various cinchona alkaloids can usually take euquinine with impunity. In this connection I desire to report two cases of cinchona idiosyncrasy which stood euquinine without any such peculiar manifestations of intolerance.

CASE I.—Mrs. T., suffering from a chronic form of malarial poisoning, was placed on quinine sulphate, five grains three times a day, in capsules. Fifty minutes after taking each dose she experienced a chill and such physical prostration as compelled her to lie down. Examination showed great pallor, rapid and feeble pulse, rapid and shallow breathing, subnormal temperature 97.4 degrees, trembling and fear of impending death. Suitable antagonistic treatment revived her, and on the suspension of quinine sulphate the attacks disappeared. Two years later small doses of a patent laxative quinine preparation, warranted not to produce the ill effects of other cinchona preparations, were taken with the same result. On her recovery I directed her to take ten grains of euquinine the next day, leaving proper restorative remedies in case of necessity. Patient took the euquinine with impunity and had no need to use the physiological antagonist.

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is a hypnotic of tried and approved value. It possesses undoubted advantages over other hypnotics in Prompt Effect, Reliable Action, Freedom from Evil After-effects and General Superior Therapeutic Value, as confirmed by contributions to current literature by H. C. Wood, W. Hale White, John V. Shoemaker, Chas. L. Dana, Chas. H. Steele, John Aulde, S. V. Clevenger, and many other authorities.

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AS A TONIC, ANTI-PERIODIC AND HÆMATOGENIC.

A new chemical combination of quinine and phosphorus, freely assimilable, non-irritant, very soluble, and indicated in all cases of fevers, malarial troubles and as a tonic. Its indications are the same as for sulphate of quinine.

The phosphorus, being in its lowest state of oxidation, is free from irritating properties, and acts as a powerful hæmatogenic, thus counteracting the pathological action of the quinine upon the blood, while the tonic, anti-periodic and germicidal action of the compound is superior to that of the sulphate quinine.

Hypo-Quinidol (Gardner), being very soluble and deliquescent, is only put up in the form of pills (1 and 2 grains), protected from atmospheric oxidation and deliquescence by an impervious coating, which also conceals its bitter taste. Literature upon this new preparation sent physicians only upon request and receipt of professional card. Address:

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SCHIEFFELIN & Co., New York, Distributing Agents for U. S. A.

CASE 2.—Mr. C., gastric catarrh. I prescribed as follows:

R	Tinct. nucis vomicæ.....	fl. ʒ j
	Tinct. capsici.....	fl. ʒ ij
	Tinct. cinchonæ comp.....	fl. ʒ iij
M.	Sig.—A teaspoonful before each meal.	

Patient asked me if the medicine contained any quinine and I said no. Patient took one dose of the medicine and within an hour had an eruption of urticaria such as I had never seen before. Subsequently it became necessary to treat him for intermittent fever. He reminded me that he could take no quinine, nor anything containing it, even in the smallest quantity. I dispensed powders of euquinine, ten grains, to be taken four hours before the expected chill. This is a small dose for a grown person under such circumstances, it being equivalent, therapeutically, to but five grains of quinine sulphate, and could hardly be expected to abort a malarial paroxysm. It did very well, however. There was no urticaria nor other unpleasant quinine effects, and the malarial attack was very mild. This treatment was continued every second day, with the effect of completely checking the subsequent chills and finally curing the malaria.

These cases are reported simply to show the value of euquinine in some cases of intolerance of the other cinchona alkaloids.

In a future article I expect to report some cases dealing with the indications for it based on its physiological action.—G. H. THOMPSON, M. D., of St. Louis, Professor Materia Medica and Therapeutics, College of Physicians and Surgeons.

Nosophen in Ophthalmology.—Of the newer remedies employed in this clinic during the past year we wish to make special mention of nosophen, an antiseptic of peculiar value in ophthalmic practice. It is a combination of iodine and phenolphthalein, the amount of iodine being about sixty per cent.; it is several times more voluminous than iodoform and devoid of unpleasant odor. It is but slightly soluble in the lachrymal secretions.

Nosophen is of particular value in the treatment of eye diseases and as a dressing after operations for reason that its antiseptic properties are manifested with but a minimum irritation; even in cases of perforating ulceration of the cornea little or no reaction followed its use. This remedy was used in a number of cases, but its effects were more especially noted in the following: One case of burn involving the nasal side of both lids of right eye; enucleation of chalazions, three cases; lachrymal abscess, two cases; chronic corneal ulceration, five cases; various wounds of lids, six cases; operations for entropion and ectropion, three cases; operation for pterygium. All cases were favorably influenced in so far as the indications were met with this drug. As an antiseptic it is superior for use in ophthalmological practice, arresting ulceration and stimulating healing. Nosophen gauze is equally worthy of favorable mention.—Extract from Report of Ophthalmological Clinic, St. Louis College of Physicians and Surgeons, January, 1899.

Arsenauro.—Dr. Arthur E. Mink, St. Louis, writes concerning the treatment of neurasthenia (*Medical Bulletin*):

"We should not lose sight of the fact that symptomatic treatment is

merely transitory. The cause must be removed. For this purpose the use of systemic tonics, and those which affect the cells and are especially nutrient to the nerve centers, are to be recommended.

"It was my custom formerly to prescribe the various forms of iron, but an extensive experience has induced me to abandon them entirely. The relief obtained from their use was palliative and transitory. In the treatment of neurasthenia I have a decided preference for the compounds of arsenic and gold. The preparation which suits me best and which I have been prescribing extensively for the last few years is the liquid of bromide of gold and arsenic: *arsenauro*. It is not only very valuable as a systemic and nerve tonic, but at the same time seems to have a peculiar and beneficial sedative effect, due, doubtless, to the bromide present in its composition. Hence, it not only allays the tremors and restlessness in these cases, but it is also of great benefit in sexual neurasthenia in calming the morbid irritability of the genito-spinal centers. We must use it persistently throughout the entire course of treatment, and bear in mind always that the neurasthenic can stand very much larger doses than they would care to admit—twenty to thirty drops, largely diluted with water, after each meal."

Unguentum Crede—Soluble Silver.—G. Schirmer has treated nine cases of cerebro-spinal meningitis with inunctions of thirty grams unguentum Credé in the course of three days, repeating an inunction of ten grams at each remission. Combined with this, very hot water compresses were applied to the spine; the nasal cavities were antiseptically cleansed as soon as the patient's condition permitted, and small doses of trional were given, if very restless. All were children and recovered rapidly, with none of the after-effects so frequently observed with this disease. Edwin Klebs suggests that infection may be carried through the tissues as well as along the lymph and blood system (*N. Y. Med. Monats.*, November) by the leucocytes, which would explain the success of the inunction, and urges tests to demonstrate this, with Credé's soluble silver as peculiarly applicable for the purpose. O. Werler considers that Credé has succeeded "with his systematically conducted chemico studies and bacteriologic experimentation in filling a gap in therapeutics that has been long and painfully felt by all practitioners, with the discovery of a specific which, without the slightest injury to the vital functions, removes the cause and cures the dreaded septicemic processes by its intense bactericidal power. In this respect Credé's *argentum colloidal* is absolutely without a rival. In this soluble metallic silver we have an internal therapeutic measure that can be relied upon to successfully control the blood poisoning due to septic infective substances, if the diagnosis is made in time and there are no serious secondary affections." He finds also that the most effective method to apply it is in inunctions, by which means the medicament reaches the blood by percutaneous absorption, where it ensures an universal antiseptis and disinfection of the entire organism, by the formation of powerfully bactericidal silver salts. He only has three cases to report (*Deutsche Med. Woch.*, No. 40): acute sepsis, a septic affection, and chronic multiple furunculosis. The progress of the affection was arrested with inunction, and

complete recovery followed promptly in every case (*vide* JOURNAL, xxx, p. 1414).—*The Journal of the American Medical Association*, December 31, 1898.

Tribromphenol-Bismuth.—Somers (*N. Y. Med. Jour.*, Dec. 24, 1898) writes on this compound as an antiseptic in chronic suppurative otitis media. His method is to thoroughly cleanse the external canal and middle ear with hydrogen peroxide applied on a cotton-tipped applicator, all granulation tissue having previously been removed. He then lightly dusts the powder over the secreting surfaces and inserts a gauze drain, which reaches from the tympanic margin to the concha, fitting into the concha, and over the external canal he places a pad of sterile absorbent cotton and allows this to remain for one or two days, according to the amount of discharge. In cases in which the use of this treatment, after other methods and remedies had been tried, they were all apparently cured; and he has treated more than one hundred cases. It does not stain the parts as does pyoktanin, nor does it cake like boric acid; and it not only lessens, but changes the character of the discharges from the middle ear. Being slowly decomposed in the ear, its action is of considerable duration, thus keeping the mucous surfaces antiseptic for a longer period than any other remedy. He especially emphasizes a thorough cleansing of the canal and tympanic cavity before applying any of the powder, as it has little or no influence unless brought in immediate contact with the pus-producing surface. Through its sedative action pruritus is also allayed, permitting more rapid repair (*vide* JOURNAL, October 15, 1898, p. 897).—*The Journal of the American Medical Association*, January 7, 1899.

Kestin.—An antiseptic preparation placed on the market by the Antibrule Chemical Company, of St. Louis. The formula as announced is gamma trinitrophenol combined with resorcin, ammonium chloride, orthoboric acid, formaldehyde. It is a clear, stainless liquid of agreeable odor and slightly alkaline taste.

The Latest Sham Diploma.—Under this title an editorial writer in a late number of the *Medical Press and Circular* calls attention to the instance of a Yorkshire chemist who announces himself as a "Doctor of Refraction," duly examined and graduated *in absentia*, by an optical college located in one of the largest American cities. This institution says that the diplomate has "passed a most satisfactory examination in the theory and practice of refraction," and is "entitled to the highest honors which the college can bestow."

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WHAT IS THE TRUE ORIGIN OF CONSUMPTION—ANIMAL OR VEGETABLE?

The transition in thought regarding pathologic problems in the realm of tuberculosis certainly has been broad enough in the past decade. But almost the entire line of investigation has been in the direction of the animal origin of the tubercle bacilli; but recently the study of the vegetable origin of the bacilli has lent a new source of interest. According to the *La Médecine Moderne*, the investigation has been regarding pseudo-bacilli found on a kind of grass which grows abundantly in certain portions of France. It (*La Médecine Moderne*) says: "In studying this grass, M. Moeller discovered a bacillus that has points of resemblance with the Koch bacillus even more striking than those of the other pseudo-bacilli of tuberculosis. The resemblance is even so strong that we may ask in what respect the false bacillus differs from the true." The conclusions arrived at in this article are that this pseudo-bacillus is nothing more or less than the tubercle bacillus modified by environment, and indicates the immense sourceful breadth of the tubercle bacillus for infecting all sources of life. Continuing, it says: "This would be an interesting point to elucidate. Up to the present time vegetables have not been suspected of harboring parasites of the tubercle family. It is possible that grasses may give refuge to a variety of the Koch bacillus living on their stems as suprophytes and capable by passage into the stomachs of cattle of acquiring virulent activity, as the bacillus of human tuberculosis. We know that another parasite, that of actinomycosis, has been found on the beard of wheat. The hypothesis of a similar for the tubercle bacillus has nothing improbable in

it." It is a deplorable fact that our sources of information regarding the wide extent and infectivity of the bacillus has not lead us in the direction of effective therapeutic measures. Perhaps, as first suggested by Paget, there may be in the vegetable world microbic forms capable of combating those in the animal world. In any event, here is a field open for a new Koch. Perhaps tuberculosis may have a vegetable origin, after all; for there may be much in the study of the pseudo-bacillus. Let this new Koch give us a new serum made from the grass bacillus; there may be a potential and tolerant element yet undiscovered. The realm of effective therapeutics in many forms of tuberculosis certainly is very small and uncertain, and truly not broadly utilitarian. Consumption (*phthisis pulmonalis*) is almost synonymous with death, and as yet there is no medicine for its cure.

SEEING RAINBOWS INSTEAD OF STARS.

For many years physicians throughout the southwest portion of the United States heard strange stories about the mescal button, called by the Indians in Texas the "woak wae teth cup." This, too, long before Lewin had discovered and named it. The editor of this journal has seen its effect upon a tribe of Indians in the Panhandle country of Texas. In 1888 Lewin, of Berlin, discovered this cactus and named it "*Anhulorium Lewinii*," and demonstrated that it contained a poison that might be classified with strychnine; but he had not discovered, like the Indians, that it contained vision exciting powers. This particular Indian tribe of Texas were known to be willing to pay for mescal buttons their weight in gold and on festal occasions enter into a vision-producing debauch. Seated on the ground around the camp-fire, with all due solemnity they would swallow from three to ten buttons and gravely await visions to come from the happy land. Dr. S. Weir Mitchell was the first person to give a scientific description of the effects of the mescal button. The Smithsonian Institute has reprinted a paper by Havelock Ellis, of London, on "The Peculiar Effects of the Mescal Button." From this we learn that all of the senses are to some extent stimulated by mescal. The visual perceptions are chiefly affected; ravishing displays of color of infinite variety of hues and tints—scarlets, crimsons, pinks, blues, golden, and an intense appreciation of blue and violet. The visual phenomena were best perceived when the experimenter's eyes were closed. Occasionally the sense of smell was excited delightfully. Mr. Ellis says, "Mescal intoxication may be described as chiefly saturnalia of the specific senses, and above all an orgy of vision. A large part of its charm lies in the halo of beauty which it casts around the simplest and commonest objects. It reveals an optical fairyland, where all the senses now and then join the play, but the mind itself remains a self-possessed spectator. Mescal intoxication thus differs from the other artificial paradises which drugs procure. Under the influence of alcohol, as in normal dreaming, the intellect is impaired, though there may be a consciousness of unusual brilliance. Hasheesh again produces an uncontrollable tendency to movement and bathes its victim in a sea of emotion. The mescal drinker remains calm and collected among the sensory turmoil around him. His judgment is as clear as in the normal state. He falls into no oriental and voluptuous reverie. On this ground it is not probable that its use will easily develop into habit."

ALL IS SUGAR TO THE VAIN, EVEN THE PRAISE OF CRAFTY VENDORS.

In these days of illustration, almost everything is made to catch the eye and please the senses; all descriptive reading adorned with pictures. A modern newspaper appeals to almost every element of thought, and enhances interest constantly through artistic effort. Every phase of a prominent career is depicted in the most effective way by illustrations wonderfully numerous and varied. Hence, the face of any prominent man soon becomes familiar to many millions of people; and, indeed, it must be a strong man whose vanity is not touched by the persistent way he is made to adorn the pages of journals. But it has remained for patent medicine vendors to indicate practically in the deepest and most indelible lines the enormous vanity of the average public character. These persons (the vendors) have shown that the limit of vanity is hard to touch, and that it is the food of more than fools; but catering to vanity has become the tool of tools in the hands of nostrum makers. There are many fools of vanity who will eagerly recommend anything from a c. c. pill to a cocaine poison, provided their likeness shall appear; for when seen 'tis applause to their hearts even though it indicates in every line that the subject depicted has been used as a cat's-paw by a medicine vendor. 'Tis sad to note that with certain generals, governors of States, members of Congress, statesmen and law-makers, their vanity has become a very ordinary commercial commodity, valuable in proportion to their misapplied judgment. Vanity is not only an enemy to dignity, but is the quicksand of reason; it certainly cannot lend either respect nor dignity for any governor of a State to recommend a nerve medicine or some pill remarkable for its ability to create internal dissension, intestinal strife. But, then, we agree with Josh Billings that "vanity is a strange passion: rather than be out of a job, it will brag of its vices."

TESLA AND HIS WORK TOWARDS INFINITE POSSIBILITIES.

To confine the imagination in these inventive days of electricity is as facile a performance as to make mercury not obey the laws of gravity. Psychologically not the least interesting study is the mental by-play of various writers of the lay press to make some new invention, particularly about electricity, overflow in ponderous and unknown possibilities. A recent writer in the New York *Herald* makes Jupiter a pigmy alongside of Tesla; the Jove of old seems to have been rather erratic and irregular in his play with thunderbolts; but Tesla plays with thunderbolts of such infinite power and possibilities as to make our ancient mythological deity an infant amateur, a puny performer. Thus he says "Tesla makes the unseen a visible, terrible manifestation in nature. He generates currents that would not disturb a fly on your sleeping babe, yet they are as devastating as a cyclone. He gives the faintest whispering current force a force that disintegrates armor plate as quickly as you melt sugar with water. In a way he brings certainty out of chaos. He makes substance from nothing. That which you can neither see, taste, hear, nor smell, he lashes into a storm of fury, and you hear this nothing roar and thunder like Niagara.

* * * In one sense it may be said that the only sure thing to-day, the

only thing that can be predicted with unfailing accuracy, is that which no man has seen with his naked eye, nor touched, nor heard, nor tasted with his lips—the star which no one has beheld, but which science has already catalogued and which will appear next year or next century to the hour and minute. Who dares to stake his life on the sure arrival of to-morrow's five o'clock express at that hour? Yet all the world knows that to-morrow's eclipse will arrive on time to the second. It is along these omnipotent, infallible lines of science that Tesla is apparently working. "With his oscillator and condenser Tesla says he sends waves of electricity through space with a force that makes dynamite a child's toy by comparison." Here flows language which depicts astounding possibilities. Strong as they seem, still Tesla's own words were easily their suggestion. What Tesla can accomplish with electricity as a curative agent remains to be seen. Doubtless our readers will take interest in a description of the manner in which Tesla came to his conclusions. From experiments he concluded that the body of a person may be subjected, without danger, to excessive electrical pressures amounting to several million volts. This has been shown in actual practice. He refers to the instantaneous cleaning of the skin by merely placing a person in the vicinity of a source of intense electrical oscillations with the effect of throwing off within the twinkling of an eye all extraneous matter adhering to the body.

Of his experiments Tesla says:—

"Soon my efforts were centered upon producing in a small space the most intense inductive action, and by gradual improvement in the apparatus I obtained results of a surprising character.

"For instance, when the end of a heavy bar of iron was thrust within a loop powerfully energized, a few moments were sufficient to raise the bar to a high temperature.

"Even heavy lumps of other metals were heated as rapidly as though they were placed in a furnace.

"When a continuous band formed of a sheet of tin was thrust into the loop the metal was fused instantly, the action being comparable to an explosion; and no wonder, for the frictional losses accumulated in it at the rate of possibly ten horse power.

"Masses of poorly conducting material behaved similarly, and when a highly exhausted bulb was pushed into the loop the glass was heated in a few seconds nearly to the point of melting.

"When I first observed these astonishing actions I was interested to study their effects upon living tissues.

"As may be assumed, I proceeded with all the necessary caution, and well I might for I had the evidence that in a turn of only a few inches in diameter an electromotive force of more than ten thousand volts was produced, and such high pressure would be more than sufficient to generate destructive currents in the tissue.

"This appeared all the more certain as bodies of comparatively poor conductivity were rapidly heated and even partially destroyed.

"One may imagine my astonishment when I found that I could thrust my hand or any other part of the body within the loop and hold it there with impunity.

"On more than one occasion, impelled by a desire to make some novel and useful observation, I have willingly or unconsciously performed an experiment connected with some risk, this being scarcely avoidable in laboratory experience.

"Now, why is it that in a space in which such violent turmoil is going on living tissue remains uninjured?

* * * * *

"The only plausible explanation I have so far found is that the tissues are condensers. This only can account for the absence of injurious action.

* * * * *

"It might be possible to sterilize wounds, or to locate or even to extract metallic objects, or to perform other operations of this kind within the sphere of the surgeon's duties in this novel manner.

"Most of the results enumerated, and many others still more remarkable, are made possible only by utilizing the discharges of a condenser.

"It is probable that but a very few—even among those who are working in these identical fields—fully appreciate what a wonderful instrument such a condenser is in reality. Let me convey an idea to this effect:

"One may take a condenser, small enough to go in one's vest pocket, and by skillfully using it he may create an electrical pressure vastly in excess—a hundred times greater, if necessary—than any producible by the largest static machine ever constructed.

"Or he may take the same condenser and, using it in a different way, he may obtain from it currents against which those of the most powerful welding machine are utterly insignificant.

"Or, again, he may avail himself of the same marvelous instrument and, by suddenly discharging its stored electricity, he may create such a terrific commotion in the space that, though silent and invisible, it can be detected, as actually demonstrated, at distances much greater than those at which the sound of the largest gun is perceptible, distances which are measured in tens, perhaps hundreds, and even thousands of miles.

* * * * *

"The physician will be able to obtain an instrument suitable to fulfill many requirements. He will be able to use it in electro-therapeutic treatment in most of the ways enumerated. He will have the facility of providing himself with coils such as he may desire to have for any particular purpose, which will give him any current or any pressure he may wish to obtain.

"Such coils will consist of but a few turns of wire, and the expense of preparing them will be quite insignificant.

"The instrument will also enable him to generate Roentgen rays of much greater power than obtainable with ordinary apparatus.

"A tube must still be furnished by the manufacturers which will not deteriorate, and which will allow to concentrate larger amounts of energy upon the electrodes.

"When this is done nothing will stand in the way of an extensive and efficient application of this beautiful discovery, which must ultimately prove itself of the highest value, not only at the hands of the surgeon, but also of the electro-therapist, and, what is most important, of the bacteriologist."

A NEW DISCOVERY—DECLARED TO BE AS BENEFICIAL TO HUMANITY AS WAS ANÆSTHESIA.

To-day there is no doubt but that the most consummate factor in new information in every direction, scientifically or otherwise, is the newspaper. The Sunday editions of metropolitan issue are marvels in an artistic way; marvels in the wondrous variety, breadth, and usefulness of the knowledge contained within them. All domains searched for information with intense interest, it is keenly scrutinized, intelligently interpreted. No savant will praise more sincerely or be more enthusiastic in the discovery of new and beneficial elements than they. Recently the discussion of the secret of artificial air has been very prominently discussed, its future usefulness predicted, and its immense benefits descanted upon. A French scientist, George F. Joubert, whilst endeavoring to facilitate submarine travel by purifying the atmosphere in submarine boats, discovered a chemical substance which removes all the impurities from vitiated and respired air, making the same

absolutely pure, which he calls "aerogene" or "zoogene." It is asserted that with a few grains of a simple and inexpensive compound he can clear the rankest and most vitiated atmosphere—the reeking atmosphere of crowded public hall or theater. 'Tis along these lines we doubt, for it is asserted by one journal (1) "he can (Mr. Joubert) make the vilest-smelling cars or densely-thronged dry goods store as sweet and pure as the air of the fields; he can maintain perfect ventilation in the sick-room, bedroom or bath-room without opening a window; and he has solved the problem of the diver, the fireman; the miner, and the submarine boat. In a word, science has now given us a compound, cheap and easy to produce, which destroys the noxious and deadly character of air already breathed, and at the same time restores again its sustaining properties."

In a letter to the *New York Journal* he (the discoverer) explains in detail his experience and experiments with it. We will make no excuse to the reader for quoting broadly, owing to the importance of the subject. Mr. Joubert says:

"In my chemical investigations I have discovered a substance which makes vitiated air perfectly pure. Its name is not of much consequence, but I call it 'aerogene' or 'zoogene.' The Greek roots clearly indicate my meaning.

"When I discovered this atmospherically purifying substance, I wrote a paper upon it in relation to submarine boats. The paper was read by an eminent professor, Dr. Laborde, before the Academy of Medicine. All members of the Academy agreed with me. The Ministry of Marine have now taken up my discovery, and at present I am making experiments under the auspices of the Navy Department.

"I like to live under water, and often spend a day there. My primary ambition is to make my country's navy the most powerfully destructive in the world.

"The chemical substance I have discovered removes all irrespirable products and replaces them by the required quantity of oxygen.

"The substance is solid, and takes up little space. The cost of its production is little.

"With four pounds of it a man can breathe the purest air for twenty-four hours. Thus, not a very large quantity would keep the crew of a submarine boat in a healthy condition for a long time.

"I have experimented upon animals very successfully in my laboratory. I have put a guinea-pig under an air-tight formation of glass, and as far as atmospheric conditions are concerned the animal could live on indefinitely. I have put a close-fitting respiratory mask upon men and made a similar experiment, with success. I have done likewise with my own self, and have attended to my work with as much ease as if I were breathing the atmosphere of the Mediterranean in mid-winter.

* * * * *

"How did I make my discovery? It has been the dream of my life. It is easy enough to reduce respirable air to its component parts. Take the air vitiated by respiration. The point is to remove the impurities caused by breathing. The composition of respirable air is seventy-nine per cent. of nitrogen and twenty-one per cent. of oxygen. Suppose the air to have been made foul by respiration; the nitrogen can be mixed with

oxygen so as to restore it to its normally pure state. It is a problem of chemistry which I have worked out. I have found some suggestions in Tyndall's works which were of great use to me.

"I have produced specifically the two following results:

"*First*.—I have purified vitiated air of its carbonic acid, of its vapor of water, and of other irrespirable products.

"*Second*.—I have given in exchange to this air the exact quantity of oxygen which it needed to make it pure. The chemical substance which I have compounded brings about these results automatically.

"Broadly stated, applications of artificial air may be said to be two-fold—preventive and medicinal. The preventive application would be, for example, against asphyxiation. It may be used for all apparatus intended for irrespirable surroundings. It may be used with great advantage in the head-gears of firemen, sewer men, miners, colliers, etc.

"Looking at zoogene from a medicinal standpoint, it is obvious that its application will be very extensive. A few grains of it carried in one's waistcoat pocket will be sufficient for the ordinary needs of therapeutics.

"Air already breathed is not only useless, but is noxious. Zoogene stops this destructive quality.

"A submarine boat may be a perfect gem of art, but without air it is of no value. Now, as the air can be renewed for as long a time as we please, I should not be surprised if the nations set about building submarine navies. As to the vast and almost inconceivable application of this discovery to medicine, human industry, mercantile life, and even the household—I leave this to other experimenters."

THE INFLUENCE OF DIET ON GENIUS AND LITERATURE.

Lombroso concluded that the physiology of the man of genius and his productivity in literature and the pathology of the insane show many points of coincidence, and seemingly demonstrates actual continuity. In either case there is continued and unusual cerebral activity with an acute, full-blooded, acting brain to meet the income and outgo of the brain's product. The association of genius with both physical and psychical defect has been well studied; the physical construction of genius presents a very varied and interesting study in almost every direction taken. Man naturally seeks a standard; hence in his own brain he always pictures an ideal. To the average man the grandeur of intellect is almost constantly associated with grandeur of physical construction; but genius seeks its own abode, and many ordinary and even insignificant bodies contain God-endowed brains of genius. Insignificant stature in the nature of things is not reconciled to the fact of a giant intellect; they seem incompatible; still, they are only too often thus associated. History shows how frequent men short in stature were wondrous in intellect. Thus, among the short in stature were Archimedes, Attila, Aristotle, Alexander (Magnus Alexander, *corpore parvus erat*), Chrysippus, Diogenes, Epicurus, Epictetus (who was accustomed to call himself a "little man") "Horace, Plato, Læertes, and Narses. Among the moderns small in stature were Erasmus, George Eliot, Beethoven, Louis Blanc, Gibbon, Haüy, Heine, Goldsmith, Hogarth, Balzac, De Quincey, Linnæus, John Hunter (five feet two inches), Thomas Campbell, Charles Lamb, William Blake (who was scarcely five feet in height),

Meissonier, Mendelssohn, Swineburne, Spinoza, Montaigne, Van Does (called "the drum," because he was not any taller than a drum), Peter Van Laer (called "the puppet"), St. Francis Xavier (four foot and a-half), Æsop, Aristomenes, Galba, Pope, Talleyrand, Scott, Owen, Gibbon, Byron, Moses, Mendelssohn, Flaxman, and Hooke were all either rachitic, lame, hunchbacked or club-footed. Pallor and emaciation and a weak and sickly childhood appear to be associated very often with intellectual genius. Indeed, defect and genius are so often coincident with genius as to almost constantly suggest that perfect physical vigor is so rare as to be almost incompatible. The defects of physical construction, lesions particularly of the head and brain, are very frequent among men of genius. Life's heritage to genius seems ever to be in the line of misfortune. Chorea, epilepsy, melancholy, megalomania, Folie du doute, alcoholism, moral insanity, stammering, delayed development, sterility, vagabondage, somnambulism, hyperæsthesia, amnesia, and other neurotic troubles. The influence of cold and heat, general barometric conditions, have not been shown to be so pronounced except when extreme environment, as exemplified in the influence of great cities, has been marked upon the productivity of the genius in literature. Great centers, where the extremes of life are met, have been the begetters of degenerates constantly profound in their influence upon literature. The influence of diet upon the productivity of the genius has not been studied in a systematic way; the energy of the outgo in the brain of a genius has plainly depended upon hypernutrition, and the potential energy of the compounds of food and drink must have a profound influence. Mental activity undoubtedly, in ordinary cases, is a study of nutrition; but in the genius it is closely akin to hypernutrition, and involves the study more of pathological conditions than it does physiological, for excessive activity approaches disease more than it does health. There can be no doubt that the influence of the stronger elements of diet and drink have an immediate influence upon both literature and genius; but the potential values in foods regarding their influence on literature is rather vague. History appears to teach a stronger lesson than science. Shakespeare and his confrères were avowedly strong eaters and drinkers. Temperance appears not to have entered into their special mode of life. Now, if Shakespeare had lived differently in the way of diet and drink, would he have been greater or inferior to what he was? It is highly improbable that diet or drink would have changed his mental product, for the energized brain of a genius has too deep a stamp to be influenced by diet. Such a brain is in the realm of abnormal activity, and if it act at all it must act violently. There can be no doubt that for any kind of activity, mental or physical, good strong diet seems necessary. Dietetic indiscretions have been the one ever and constant failing with the literati of the world, modern and ancient. It is said Byron, when he felt himself in danger of becoming more fat than bard beseems, lived some time on biscuits and soda water, and asked Tom Moore if beefsteaks did not make him ferocious. From the works of these two poets, one would be inclined to conclude that Byron's diet tended more to ferocity than Moore's. Mr. Herbert Spencer, who lived as a vegetarian for a year, is said to have summed up the effect of his diet on his literary productions as follows: "At the end of that year I read over all that I had written during that period and forthwith consigned it *in toto* to the fire."

Balzac attributed much of his wonderful fecundity in literature to coffee. It is stated that in thirty years he wrote forty volumes and drank three hundred thousand cups of coffee. It is very interesting to read what he says. "I have discovered," wrote Balzac, "a horrible and cruel system which I recommend only to men of exceeding vigor, with heavy black hair, a complexion of ochre and vermilion, solid hands, and legs like the balusters of the Place Louis XV. I speak of the use of coffee ground, distilled, cold anhydrous (a chemical term signifying with little or no water), taken fasting. This coffee drops into the stomach, which, as you know from Brillat-Savarin, is a bag of velvety interior, upholstered with papillæ and capillaries. Finding nothing, it attacks this delicate and voluptuous lining; it becomes a sort of nourishment, demanding its juices; it wrings, it compels them like a pythoness adjuring her god; it maltreats those soft walls as a wagoner abuses his young horses. The flexuses inflame, they blaze and send their sparks up to the brain. Then, all at once, everything stirs. Ideas move like the battalions of an army on the eve of battle, and the battle begins. Memories charge with banners displayed; the light horse of comparison deploys in a superb gallop; logic brings up its artillery with carriage boxes and tram; witticisms come as sharpshooters; figures of rhetoric take form; the paper is covered with ink, for the watch begins and ends in torrents of black liquid, as does the battle in its black ammunition. * * * In certain conditions coffee, taken fasting, produces a sort of nervous excitement resembling anger. The voice rises, the gestures express unnatural impatience; all things must succumb to the passing idea."

Perchance the literati of the present are becoming dietetic devotees; but certain it is that in the wonderful past strong drink and foods made many pages throb in words that burn and thoughts which glowed. Environment and not food has been the great force in literature. Great cities have ever been forcible inspirers of intellectual effort, and that, too, with their attendant elements of excess and intemperance. The minds of Shakespeare and Bacon have thrilled and blessed centuries; and if history is to be credited, they were lovers of strong sustenance and ardent elements. Excesses have always and do now abound in the realms of intense mental effort.

ARE MICROBES NECESSARY IN DIGESTION?

Man in his ignorance frequently considers many things in life as useless and superfluous; but, as Voltaire says, the superfluous is a thing highly necessary. From man's standpoint of view, the microbe is often viewed as almost entirely inimical to life; but the great element of cause is not laid open for inspection, and man must content himself to generalizing and theory. The part played by microbes in life, their utility and their purpose, is certainly but little known by man. There has been much discussion indulged in regarding the useful rôle of microbic agency. The part played by microbes in the process of digestion has been a point under discussion, some authorities maintaining that they were not necessary, whilst others maintained that they were necessary. Neucks maintained that digestion could take place without microbes. The experiments of Nuttall and Theirfelder supported this in part by showing that young animals could be

brought up and kept for several days in conditions such that no microbe could penetrate into their intestinal canals and that they were nourished and increased in weight. But Nuttall and Theirfelder neither proved nor asserted that these microbes were useless, but rather the opposite; for animals whose intestines were sterilized grew more slowly than normal animals. In the experiments of Professor Schottelius it was found that in the case of the young fowl bacteria were of great use in digestive work; While digestive ferments exist normally in the intestinal canal, they remain inactive until a secretion of microbes takes place; that regular nutrition only begins when bacteria appears. He asserts from his experiments upon young and growing fowls that the presence of microbes in the intestinal canal is both useful and necessary. His concluding language in the discussion of this theme is thoroughly and impressively stated. Thus, he says: "To sum up, our whole life implies the existence of a state of 'symbrosis' (condition of mutual assistance) with the occupants of our intestinal canal, and we can no longer deny the part they (the microbes) play in digestion. We should measure it and endeavor to aid or restrain it; according to circumstance, to render it hygienic and cause it to contribute to health instead of being the cause of both temporary derangements and chronic disorders, as is now the case."

Diet in Acne.—The regulation of the diet in this troublesome and so often obstinate affection is now generally admitted to be the most important element in the treatment of the disease. Patients themselves will usually have been trying various dietary experiments along with the ordinary home remedies before consulting a physician. Unless, however, the most explicit directions are given as to the proper diet, serious mistakes will be made by patients in the selection of foods, and especially as to its quantity. As Dr. Jackson says, in his manual of diseases of the skin: "The well-to-do are prone to eat too much, and it is remarkable how rapidly their acne will improve by reducing their diet to the simplest elements. In many of them a milk diet, provided milk agrees with them, will accomplish a marked benefit." On the other hand, many young girls almost starve themselves, entertaining the mistaken idea that a low diet will give them a fine complexion. Nothing could well be less true than this. Especially is there a prejudice against butter. The old explanation that skin eruptions were mainly due to the use of too much butter still remains absolutely true for most non-medical people, and even for some medical men. That butter should be used freely, and that codliver oil and iron should be the only drugs required in many cases, as Dr. Jackson insists, would, to these good old conservatives, seem rank heresy. It is evident that more definite ideas as to the diathesis that underlies the etiology of acne have been acquired, and that the dietetic management of it rather than any empiric use of vaunted specifics constitutes the most modern therapeutics of this extremely frequent and bothersome condition.

CLINICAL LECTURE.

MEDICAL CLINIC ON DISEASES OF CHILDREN.¹

By AUGUSTUS CAILLÉ, M. D., of New York,

Professor of Diseases of Children, Visiting Physician New York Post-Graduate and German Hospitals, Consulting Physician Isabella Home and Hospital, etc.

CASE 1.—*Congenital Lipoma*.—This lady, mother of one of our little patients, asks our opinion as to the nature of a number of small subcutaneous tumors in various parts of her body. They are congenital lipomata, and the fact that they are congenital will enable us to give a favorable prognosis. A lipoma, according to Park, is rarely congenital, except in connection with lymphatic anomalies, but usually develops in adult life. This form of tumor is the commonest and most widely distributed of all tumors that occur in the human body. Save when deeply situated they are easily recognizable, having a dough-like consistence and, when subcutaneous, intimately connected with the overlying skin. In this instance no interference is necessary; if the tumor was situated over the tract of a nerve and gave rise to intense pain or neuralgia, it then should be removed; but as she is not inconvenienced by their presence, I fail to see the rationale of operating.

CASE 2.—*Preputial Adhesions*.—This boy who is now being placed on the table was brought here to be operated upon for phimosis. He has not this condition, but he has epithelial adhesions, which I will ask one of our colleagues to come down and, with this instrument, break them up for us and then draw back the foreskin over the glans penis. The dressing should consist only of boric acid and vaseline.

CASE 3.—*Phimosis*.—Here is a little lad who wets his clothes and his bed, and is looked upon as a general nuisance, all on account of an elongated prepuce. I wish one of the members of the class to come down and perform the operation of circumcision for us. The urine collects under the prepuce, itching follows, the patient then scratches himself, the foreskin becomes reddened and he becomes a bother to himself and his surroundings. This boy has applied at the dispensary for treatment; he was given protective salves, but they failed to relieve him, and so he has consented to have the operation performed. In sewing, I prefer to use black horse-hair, because it can be seen and readily removed.

CASE 3.—*Naso-Pharyngeal Adenoids*.—The reason the mother brings this child here is because it keeps its mouth open at night and snores. This is a clear case of adenoids. They consist of pure lymphoid tissue mixed with connective tissue, and they are essentially hypertrophic growths and not true tumor formations. These patients have a vacuous appearance, with a half-opened mouth; they are sometimes more or less deaf, and they have a nasal voice, often snore loudly at night, and, if the child be young, attacks of choking and night-terrors are not uncommon. Many of these children are treated for bronchitis for weeks or even months until somebody is smart enough to run his finger back in the naso-pharynx,

¹ Held at the Post-Graduate Hospital, New York City, Tuesday, March 28, 1899.

when the true difficulty is found. I shall now introduce a mouth-gag and insert this curette behind the soft palate, using some force in scraping all the adenoid tissue away. The hemorrhage which follows usually ceases in a short time. Before doing this operation on adenoid children inquiries should be instituted regarding the possibility of the hemorrhagic diathesis being present. This operation can be made with or without an anæsthetic. In the nose and throat department it is usually done with an anæsthetic. Removal of adenoids brings on a brisk hemorrhage, and, if no anæsthetic be given, the blood does not so easily get into the larynx and trachea, as may happen when the patient is unconscious.

CASE 4.—*Adenoids of the Naso-Pharynx*.—Here is another case of the same nature as the one just operated upon. I will operate in the same way. If children bleed much after the operation, I find it best to apply alum water to the parts, which is far better than the use of iron preparations; the latter give unpleasant coagula which interfere with the child's comfort. One should caution the parents that if the child should vomit blood a few hours after operation they should not become frightened, as it is generally swallowed blood. The parents should be instructed to continue pouring into the child's nose alum water every hour or two for the first two days, and then to use a salt solution in the same way, three times a day. If one operates in a filthy mouth, as in one with bacteriological diphtheria, one may get a diphtheritic inflammation in the naso-pharynx because the germs are there. If we suspect or know that the mouth is filthy, we should use some antiseptic solution for the nose and throat a week before the operation. Cleanse the naso-pharynx and then you need anticipate no difficulty. Scraping near the opening of the eustachian tube cannot do harm, or at least rarely does harm.

CASE 5.—*Pleuro-Pneumonia With Serous Effusion*.—This child is about one year old and was brought in here last night. The colleague who sent her in did so that an operation for empyema might be performed; he had made a puncture and said he found pus. One of the physicians in the baby's ward also made a puncture and failed to find pus. Now, the question arises, is it a chronic unresolved pneumonia or an empyema that we have to deal with? We will make another puncture and establish the diagnosis. Percussion shows a solid portion, absolutely dull. The finger here demonstrates diminished resonance. In young children the ribs often overlap like shingles and it appears difficult to enter with a needle. I now introduce the needle. The fluid that comes into the barrel of the syringe is perfectly clear. Now, how can we reconcile the two statements made? One colleague puts in needle and finds pus; I put in needle and find a serous effusion; another colleague finds nothing. If we disinfect the syringe with carbolic acid solution and then aspirate the serous fluid, we sometimes get a turbid fluid, due to the action of the carbolic acid on serum; this may be mistaken for pus. I believe the first colleague got a serous fluid which was so acted upon by the carbolic acid, and interpreted as pus. In this case the serous fluid does not require any operative interference for its removal at present.

CASE 6.—*Apex Pneumonia*.—Here is a baby who has a peculiar cough which I wish you all to note. Without an examination of this child I can almost establish the diagnosis of apex pneumonia by its cry. Examina-

tion shows all the typical signs of this condition. Now that you have seen and examined cases of pleuro-pneumonia and apex pneumonia, I will conclude the hour by making a few remarks on pneumonia and its management.

Text-books give many varieties of pneumonia; practically we need divide pneumonias into but two divisions: First, *acute lobar pneumonia* is a disease peculiar to itself; and second, the *catarrhal* or *broncho-pneumonia*, or *capillary bronchitis*, belong to the second group of pneumonias under but one head. Please make this distinction, and keep it before you at all times; for it is of practical importance as regards treatment.

Acute lobar pneumonia is an inflammation of the lung produced by a *specific micro-organism*, the *pneumococcus*; whereas, broncho-pneumonia, or capillary bronchitis, is due to other forms of cocci. The one is an acute specific disease; the other is usually secondary.

As regards localization, the acute lobar pneumonia may be found in the *apex*, in the *inferior*, *lateral* or *central* portions of the lung. Illustrations of its being localized in the apex is shown in the case presented to you this morning. Associated with this localization there is the peculiar cough or whoop which you have just heard. One may also have a *wandering*, *migratory*, or *creeping* pneumonia—*i. e.*, a pneumonia in the right side to-day, and in a few days may find a typical pneumonia on the other side. The form of pneumonia that frequently puzzles us is the so-called *central form*. A case I saw recently was a boy about eight years of age, who had a high temperature, 106.5° , for five days; there were present some of the clinical symptoms of pneumonia, but no rales or dullness; there was rapid breathing, high temperature and flushed face. All the important organs were examined and found to be free. Could not positively state that it was a pneumonia until the fifth day, when we were able to localize it. Such cases are not rare, and may cause much trouble in diagnosis to the younger men of the profession; they may baffle even older practitioners. When such a pneumonia gets to the surface, all the signs are then characteristic. In central and apex pneumonia high temperature is the rule in children, and they will often be ushered in by convulsions.

Regarding the differential diagnosis, you have seen already how we differentiate between consolidation of the lung and an effusion. The needle does that. Text-books give certain signs and symptoms for distinguishing; but the older we get the better we know that it is frequently impossible to differentiate between these two conditions without the needle.

You have occasionally to differentiate between a consolidated lung (an unresolved pneumonia) and a tuberculous consolidation. That is very difficult in children, because they have no sputum, and you cannot readily find the tubercle bacillus unless you get the sputum. One of the differential points pertain to the temperature. In unresolved pneumonia—after the ninth day—you do not have as high a temperature as you do in tubercular consolidation. There the temperature runs as high as 106° and above, and remains high. In unresolved pneumonia it rarely gets above 103° or 104° . This is not a positive method of making the diagnosis; we must keep in mind the clinical history, the course of the disease, the family history, etc., all of which aids us greatly in distinguishing between these two conditions.

As to the treatment of lobar pneumonia, there is a lurking suspicion in the minds of some of our colleagues that we can abort pneumonia, but I do not believe that it can be done, although the course of the disease may be influenced. If the patient is a syphilitic, then mercury may have some influence; if the patient is infected with *plasmodium malariae*, then quinine may be of benefit, particularly in broncho-pneumonia. Lobar pneumonia is due to a specific micro-organism, and we are waiting for the antitoxin which our colleagues across the water say they have found.

Certain drugs have been advocated for the treatment of acute lobar pneumonia, such as the salicylates, *veratrum viride*, antipyrin, antifebrin, phenacetin, digitalis, etc. These drugs may reduce the temperature for a few hours or strengthen or weaken the heart's action, but the pneumonia will progress notwithstanding. Therefore, I believe that the less drugs we use in acute lobar pneumonia in children the better. If the temperature is not abnormally high, do not give anything but water. You may give hydrochloric acid to aid digestion. If cerebral symptoms develop, and you fear convulsions, you may give phenacetin or antipyrin, the latter dissolved in water and given per rectum. To reduce the temperature mustard baths are useful. Also ice-coil to the head. If the heart becomes flabby, use stimulants early. Suppose a child's temperature drops on the ninth or tenth day, then goes again to 102° or 103° ; that means either an unresolved pneumonia or some complication has set in, as a serous effusion or a purulent effusion (empyema).

In the beginning of acute lobar pneumonia, give one dose of calomel, grs. iij to v, and treat symptomatically. If retention of urine occurs, use the catheter. A daily enema should be ordered and a few drops of salt water should be instilled into each nostril four times daily to keep the nasopharynx moist. Administer liquid food, give cool drinks, cool air to breathe, a warm mustard bath or cool wet pack to reduce the temperature and quiet the pain, or else bath at 100° reduced to 80° , using friction. Do not give a cold bath if the feet are cold. If necessary, grs. 3-5 phenacetin may be given at night. Weak children and infants require early stimulation, such as whisky, wine, coffee and such drugs as are found below. There is no routine line of medication, although prescription No. 1 may be given, if it is found desirable to give something. Jackets, poultices and oxygen inhalations are of doubtful value; but a chest compress of cold water every hour or two may be of value. If there be delayed resolution, look for pus and give iodide of potassium prescription, No. 7.

In broncho-pneumonia, or capillary bronchitis, we find the treatment is different from the one just considered. Broncho-pneumonia invades not one single lobe of the lung, but we find it scattered throughout the lung. It may be unilateral or bilateral, or, again, there may be small areas of pneumonic consolidations which, if you are expert enough, you may detect by physical examination. There are often atelectatic foci. In young children and in old people a broncho-pneumonia is a dangerous disease. Stimulate early and give expectorants. In malaria with broncho-pneumonia, quinine and whisky is a good combination to give; and I am often surprised at the good results obtained in children and in adults. In broncho-pneumonia the treatment is *active*, not *expectant*. Prescription No. 7 is particularly adapted to this form and has the power of

liquefying the secretions. Camphor by the mouth, administered with sugar or chocolate, or hypodermatically camphorated oil and ether, half and half, makes an excellent stimulant. The double salt of caffein and benzoate of sodium is a very good stimulant. The stimulants usually employed are Nos. 2, 3, 4, 5, 6, 8. In urgent case, artificial respiration and cold douches may be given. It is a good plan to isolate patients, for we often find one, two, or three patients in one family; I believe pneumonia is mildly contagious. It is also a good plan to change the patient from one room into another. The air in the room should often be changed. Another point of value is the little trick of raising the foot of the bed; some patients are so weak that they are unable to expectorate or expel the mucus; by raising lower end of bed, we can utilize gravity with good effect. This mechanical device allows the secretions to get out and so facilitates the clearing of the air passages, and is well worth remembering. Artificial respiration may sometimes save life. Regarding the question of venesection, I should like to say that I firmly believe in its value in adults and in selected cases.

FORMULÆ.

No. 1.	℞	Ess. of pepsin.....	℥ ij
		Acid muriat. dilut.....	℥ j
	M.	Sig.—Teaspoonful four times a day.	
No. 2.	℞	Ol. camphor,	
		Ether pur.....aa	℥ ij
	M.	Sig.—Gtts. x-xxx hypodermatically.	
No. 3.	℞	Camphoræ.....	gr. j
		Pulv. digitalis.....	gr. j
		Acid benzoic.....	gr iij
		Chocolad.....	gr. v
	M.	Sig.—One powder every three hours.	
No. 4.	℞	Tablet triturates of strychnia.....	gr. 1-50-1-100
No. 5.	℞	Tablet triturates nitro-glycerine.....	gr. 1-100
No. 6.	℞	Antipyrin or phenacetin with caffein.	
No. 7.	℞	Potassii iodidi.....	℥ ij
		Aquæ.....	℥ ijss
		Liq. ammon.....	℥ j
		Syrupi.....	℥ ss
	M.	Sig.—Teaspoonful four times a day.	
No. 8.	℞	Caffein et sodii benzoat.....	gr. 1-5
		Sig.—In water, by mouth or subcutaneously.	

ORIGINAL ARTICLES.

THE GREAT BELLS OF EDINBURGH.

By JOSEPH BELL, F. R. C. S., of Edinburgh, Scotland.



THE BELLS of Edinburgh have won a reputation as a medical and surgical family of considerable mark, and we find the name often mentioned along with Munros and Woods, as illustrating the possibility of the hereditary transmission of certain qualities which tend to success or even eminence in certain walks of life. Three of the name were specially distinguished in their various spheres. *Benjamin*, the author of the great treatise on systematic surgery, in seven volumes, which passed through many editions and which was translated into foreign lan-

guages. *John*, the brilliant operating surgeon and clinician, whose literary power and remarkable imagination gave his records of his surgical cases all the interest of brilliant fiction. *Charles*, also a surgeon at heart and by profession, but who will be remembered so long as medical science lasts by his magnificent contributions to the physiology of the nervous system. His is the name associated with the respiratory nerve, and with Bell's palsy.

The stock from which all were originally descended was a border clan, well known in the battles and clan feuds which always devastated the Scottish border. Their ancient peel or tower of Blacket still stands in the parish of Middlebie, on a slope of land partly surrounded by the windings of the Kirtle, a river renowned in Scottish song. The breed was a dour and strenuous one, described in local acts and warrants as Robbers and Rievers, always ready for a fray, either against the English or against a neighboring clan. On the lintel of the old tower we can still see the smooth surface of the stone on which they sharpened their swords, and within a bow-shot of the door is the memorial stone to the chief of another clan, shot by the Bell of that day from his castle door.

The castle and new house have passed into other hands, but the country side is full of legends and the kirkyards of graves and quaint epitaphs which keep the memory of the old freebooters fairly green.

Benjamin Bell was, in his day, the representative of the clan, and in his biography (written by his grandson, Benjamin Bell, the father of the writer of this little sketch) are many interesting tales of his ancestors. They were always men with opinions of their own. The laird in 1662, though a decent man, in that he was not a freebooter, was a zealous Covenanter, and as such was called a rebel; pardoned in 1662 by the Act of Indemnity, but heavily fined. He was the great-grandfather of the surgeon. The grandfather was a successful cattle breeder, married a Gra-

ham from Cumberland, and left his cattle and his acres to his son George, born in 1722, who was the father of Benjamin. The mother of the future surgeon was Anne Corrie, of Speddoch, a remarkable woman, who survived her husband after a married life of nearly seventy years. She was a worthy descendant of her great-grandfather, Alexander Gordon, of Earlston, long a prisoner in the Bass Rock for his adhesion to the Covenant, and of his wife, a daughter of Sir Thomas Hamilton, of Preston, also a zealous Covenanter, who fought at Dunbar and Worcester.

The mingled strain of border rievers and stern Puritans and Covenanters was not a bad one to produce hard-bitten, long-headed Scotsmen. Benjamin was born at Dumfries, in 1749. He was the second child and eldest son of a family of fifteen children. He received an excellent classical education at the grammar-school of Dumfries, and in 1766 entered the Medical School of Edinburgh. The Munros (first and second), Black, Cullen, Gregory and Hope, were then among the teachers. After the usual studies, in his case devoted specially to the surgical side of the profession, and after residence as clerk or house surgeon in the Royal Infirmary for two years, he was admitted a Fellow of the Royal College of Surgeons on April 5, 1771, and immediately went off to study surgery, both in Paris and London. When in Paris he and his great friend, James Hamilton, lived with and studied under Baron Portal, the famous surgeon. On his return, in 1772, he was appointed one of the surgeons to the Royal Infirmary, and held office in that great institution for twenty-nine years.

He quickly settled in practice in Edinburgh, married Grizel Hamilton, the only sister of his friend James, and after the usual delays and anxieties of a young surgeon began to build up a large practice. A fall from horseback, however, caused such serious injuries that for a year or two he had to give up work and live at a farm-house in the country. This enforced leisure was not wasted, as soon after his recovery, in 1778, he published his first surgical work of importance on ulcers and joint diseases. From this date his life was one of unvarying labor and success. Between 1783 and 1788 he published his great work on surgery, in seven volumes, which by 1801 had reached a seventh edition.

Though bald in style, and at times tedious, its teaching was much in advance of anything published at that time. It contains bold speculations and indications that operative interferences unknown till nearly a century later had been meditated in the author's mind. We have no indication that he ever was a brilliant operator, but a safe and trusted surgeon he certainly was. One of his apprentices who lived to a great age, mentioned that at one time in Scotland the saying was "that no one could die contented without having seen Benjamin Bell."

Apart from his surgery he was a man of great common sense and sagacity, an excellent practical farmer, a bold and successful speculator in landed estate; in many ways a man much in advance of his age. He died of a wasting illness, interfering with his digestion, at Newington House, near Edinburgh, on August 5, 1806, at the comparatively early age of fifty-seven.

Two of his sons followed his footsteps and adopted the surgical branch of the profession. George, the elder one, was a very brilliant operator, especially for stone, and was well known in the south of Scot-

land and north of England as a consultant. Joseph, the youngest son, studied both in Edinburgh and London, assisted his brother George in his surgical work, and practiced for many years as a most highly-respected general practitioner in Edinburgh. George had two sons in the profession—one, Benjamin, a young man of great promise, wrote a work on "Diseases of the Bones;" the other, George, was a well-known philanthropist. Joseph brought up his eldest son, Benjamin, to carry on the family tradition; but it is hardly suitable for the present writer, who again is his son, to pronounce a panegyric on his father, for to tell the truth about him would inevitably seem fulsome praise.

John Bell.—He was the grandson of the minister of Gladsmuir, in East Lothian, who was almost certainly a descendant of the older branch of Blacket, of which Benjamin was the representative. John's father was the Rev. Wm. Bell, who, though a son of the East Lothian manse, joined the Episcopal Church in Scotland, and afterwards became the minister of the Episcopalian church in Edinburgh. He married Miss Morrice, the granddaughter of Bishop White, and of the eight children of the marriage, four attained to eminence in their respective professions: two were lawyers and two medical men. John, the second son, was born in 1763, was educated at the high school of Edinburgh, and then began his medical studies as the pupil of Dr. Alexander Wood, the famous "lang Sandy." He studied anatomy under the second Munro, and, seeing the important bearing of anatomy on operative surgery, devoted special attention to that branch of medical science. After finishing his medical studies and traveling in Russia and northern Europe, he began to lecture on anatomy and surgery in a theater he built for himself in Surgeon square in 1790. He published "Dissections" and several volumes on surgery between 1793 and 1806. He performed many brilliant operations, and described them in language of hyperbole. He was in constant hot water, having controversies with the University, the Infirmary managers, Dr. Gregory, and others. He spent a good deal of force in abusing Mr. Benjamin Bell, and seems to have been a clever controversialist, often appearing to have the best of arguments, spoiled by fierceness of abuse and extravagance of language. The calm, shrewd, and successful opponents, such as Doctor Gregory and Benjamin Bell, had the confidence of the public. John Bell, with probably more genius and greater operative dexterity, seemed to want the ballast and common sense needed to carry a man safely through the world. He made a good deal of money, but spent it all and more, and was often in difficulties. In 1816 he fell from his horse and received injuries from which he never completely recovered. He traveled on the continent, became dropsical, and died at Rome in the fifty-seventh year of his age, on April 15, 1820. In nearly every other way the antithesis of Benjamin, he resembled him in his devotion to surgery and in his comparatively early death.

John Bell's great quarto volumes are delightful reading, and some of his cases are most graphically described: "The famous leech-catcher, who had an aneurism (probably gluteal) of prodigious size. It was opened by an incision eight inches in length, from which the blood was thrown out with great violence and with a 'whishing' noise; the assistants were covered with it. Twenty hands were about the tumor, and the bag

(sac) was filled with sponges and cloths of all kinds. The patient fell down, his arms fell lifeless and without pulse over the side of the table, his head hung down, his face was livid, he uttered two or three heavy groans, and we believed him dead. I ran the bistoury upwards and downwards, and at once made my incision *two feet* in length," etc.—Vol. I., pp. 422–3.

Most entertaining reading, truly, but we fear many of the details of the cases must be taken with the proverbial pinch of salt.

Sir Charles Bell.—He was born in Edinburgh in 1778. He was the youngest brother of John Bell; was, like him, educated at the high school. He had the enormous advantage of assisting his brother in his anatomical teaching, and while still a minor was lecturing to hundreds of pupils. He became a member of the College of Surgeons in 1799. In 1806, after having served some years in the wards of the Edinburgh Royal Infirmary, he went to London, lecturing on anatomy and surgery for some years along with Mr. James Wilson. In 1814 he was elected surgeon to the Middlesex Hospital, where he soon made himself famous as a clinical teacher, lecturing there from 1814 to 1836. Not only was he one of the strongest members of the teaching staff, but he also interested himself in the administration and worked hard for its prosperity.

He did much excellent work along with his brother John on the relation of anatomy to surgery, and also published splendid illustrations of the great operations of surgery. His zeal for operative surgery, especially in its relation to gunshot wounds, was so great that he twice left his lucrative practice in London to work on the wounded in the field. After Corunna he met the transports which landed the wounded on the south coast of England; and after Waterloo he was put in charge of a hospital and treated three hundred men. He was an admirable draughtsman and an adept in oil and water-color painting, and his original paintings of the wounded after Waterloo adorn the walls of the Royal College of Surgeons Museum in Edinburgh. One, of a case of opisthotonos in severe tetanus, is one of the most perfect illustrations of the malady ever depicted. His "Institutes of Surgery," in two volumes, is a very interesting and valuable work. Some of the cases recorded in it, and the lessons drawn from them, are so well described and neatly and effectively put as to be well worth perusal.

Charles was a great surgeon, but he was a much greater physiological anatomist. His magnificent discovery of the motor and sensory branches of the nerves, and his masterly pamphlet on the "Idea of a New Anatomy of the Brain," put him at once on the list of the great discoverers in science.

His name is associated with two minor facts in physiology and pathology—the external respiratory nerve of Bell, and Bell's palsy. He was one of those who could make the facts and inferences of science popular and easy to be understood, as is proved by his "Dissertations on Animal Mechanics" and his masterly Bridgewater treatise on "The Hand: Its Mechanism and Vital Endowments as Evincing Design."

Knighted in 1831, he returned to his native country and to Edinburgh, from which he had been absent for thirty years, in 1836, as professor of surgery in the University of Edinburgh. He held the chair and

maintained its dignity for six years, but died suddenly of an attack of angina pectoris on April 28, 1842, at Hallow Park, near Worcester, where he had been visiting Mrs. Holland. He lies buried in Hallow church-yard.

It is seldom a man attains to eminence in two branches of the profession. Had he not been greater as a physiologist, Charles Bell would have been remembered as an enthusiastic and successful teacher of surgery.

Not a bad record for one wild Scottish border clan to have given to the world, in one generation, three men of commanding eminence in their varied branches of the profession.

TOXICOLOGICAL CHEMISTRY IN GASTRIC DISEASES.¹

By JOHN ZAHORSKY, A. B., M. D., of St. Louis,

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TOXICOLOGICAL chemistry in gastric diseases is almost at a stand-still before a multitude of complex and obscure organic molecular combinations. Recent investigations have not garnered any truths in regard to this subject that have not been foreshadowed in certain deductions made by clinicians more than a decade ago. But however meager in specific discoveries, the enormous variety of poisonous substances which play a definite pathogenetic rôle has been sufficiently studied, so that an attempt at classification is to a certain extent expedient. Very few chemical sub-

stances have yet been isolated, and terms to designate them are, therefore, not coined.

Gastric poisons may be classified: *first*, according to their origin; *second*, according to their chemical composition; *third*, according to their special activity—that is, local or general; *fourth*, according to their relationship with foods and digestion. The poisons which directly by ingestion may cause disease of the stomach may be divided into mineral, animal, vegetable and bacterial poisons.

The mineral poisons need only be referred to. Their number is very large, and include mostly the corrosive chemicals—as, for example, arsenic, corrosive sublimate, antimony and the mineral acids. By their ingestion in sufficient doses, severe grades of toxic gastritis are produced, the concentrated mineral acid producing, perhaps, the most severe morbid changes.

¹ Read before the Missouri Medical College Alumni Association, March 9, 1899.

The vegetable kingdom furnishes a large number of poisons which, when swallowed, cause gastric symptoms, and even inflammatory disease. For example, I will mention oxalic, acetic and pyrogallic acids. Certain resinous compounds act similarly, as colocynth. Capsicum in large doses produces violent irritation. Certain alkaloids can produce gastric irritation, as muscarine or colchicine.

The toxic compounds from this source are so numerous that a further consideration must be deferred.

Poisons that have an animal origin have recently come into prominence, particularly through the studies of Gautier, who called them leucomains. Still, besides alkaloids to which this term is applied, other chemical compounds, as acids, proteoses, glucosides, etc., derive their genesis from the physiological or pathological activity of animal tissue cells. Their formation may occur in animals which serve as food for man, or they may be formed in the human body and excreted by the stomach. Thus the blood of the common eel, or conger eel, contains a violent albuminous poison which induces intense irritation of the stomach followed by diarrhœa. It burns the tongue like phosphorus. Mosso has named this ichthyotoxium.

Mytilotoxin, extracted from poisonous mussels, is a leucomain having the power of causing dangerous general symptoms. But some mussels contain a poison which acts as very effective gastric irritant.

These toxins from certain classes of fish give rise to symptoms referable to the stomach, and some are followed also by severe semiotic phenomena. Under this class belongs the disease which is called signatera by the Spaniards. Kobert has studied these poisons and finds they are leucomains and tissue toxins, their source being certain glands in the skin, fins, tail or gills of these fishes.

Too little attention has been given to the excretion of leucomains by the gastric mucous membrane. On the skin a great variety of lesions may occur, due to substances circulating in the skin or excreted by some of its glands. The stomach also has the power of excretion; and thus toxic material may find its way in the gastric cavity. Particularly in ulcer of the stomach the presumption is strong that irritating leucomains are excreted and produce an eruption, so to speak, on the surface of its lining. This is digested by the hyperchlorhydria. It is difficult to account for the periodic crises, the excessive hyperæsthesia, and the slow process of repair on any other hypothesis. In one case of gastric ulcer under my observation, uric acid and urea were found in large quantities in the vomitus. Creatinin has also been found; and that the more poisonous compounds of the xanthin series may be found is a logical corollary. Evidence is accumulating more and more to show that at least some gastric ulcers are caused by excreted leucomains.

The vomiting in Bright's disease and hysterical or toxic anuria seems also to depend on irritating excretory substance discharged into the gastric cavity. In these diseases metabolic products of a poisonous character are common. Of course, it must be admitted that the poisonous leucomains act on the cerebral and spinal centers and centrifugally cause vomiting, but yet the local irritation is also a fact.

Bacterial poisons also have an important place in the etiology of

gastric disease. These may be divided into the endogenic and ectogenic. The former are produced by the microbic activity in the food after ingestion, or in the gastric secretions, or even in the tissue of the gastric wall.

The ectogenic poisons are those formed in a great variety of foods previous to their ingestion by toxicogenic bacteria. A very large number of these have already been isolated and belong mostly to the ptomaines. Such is tyrotoxin, the alkaloid in poisonous cheese and milk; butilotoxin, the alkaloid in meat and sausage poisoning produced by the bacillus botulinus.

Similarly produced are muscarine and cadavarine. All these poisons cause a violent gastro-enteritis, and to the practitioner have a most important practical significance. Fortunately, a large variety of toxalbumoses, formed in the decomposition of proteids, are harmless when taken into the stomach, as the gastric and pancreatic juices speedily destroy their harmful activity. Only in specially predisposed individuals do symptoms arise from them.

The endogenic toxins in gastric diseases have been the source of considerable investigation and discussion. Bouchard had pointed out long ago that stagnation of the gastric contents, as in gastrectasia, is accompanied by the formation of poisons through bacterial growth. The whole train of symptoms, such as nausea, vomiting, headache, backache, languor, drowsiness, insomnia, irritability, offensive breath, coated tongue, and bad taste in the mouth could only receive a rational explanation by the theory of toxin formation in the stomach. A great variety of experiments have been made, and it has been shown that, even in the absence of hydrochloric acid, albuminoids do not undergo extensive putrefaction in the stomach. The reason for this is analogous to the fact that the proteids in milk do not readily putrefy, namely, the carbohydrates and hydrocarbons ingested with the proteids are first decomposed and form acids, which are not toxic and yet prevent the growth of saprophytes. These acids are lactic acid, which is found particularly in carcinoma ventriculi; acetic acid, which is the important digestant in gastro malacia; butyric acid, and the higher fatty acids. All these produce local irritation but no general symptoms. Still, Bouchard's deductions in the main are correct. Sulphureted hydrogen has been demonstrated several times when large quantities of proteids and no carbohydrate foods were taken. A very interesting decomposition product is acetone. This has been found several times.

This suggests that it may be etiologically related to gastric coma, as this chemical is also found in diabetic coma. Since we know that acetone does not induce coma, even in large doses, the causal relationship cannot be direct.

Tetany has been discovered very frequently associated with gastric dilatation. It was presumed *a priori* that some physiologically active substance is generated in the stomach, and being absorbed is followed by this phenomenon. Painstaking researches have led to contradictory results. Thus, Bourveret and Devic found a toxic substance in an extract from the contents of a dilated stomach, which, injected into small animals, produced tetanoid attacks. It was identified as a peptotoxin, similar to that discovered by Brieger. Salkowski and others have not been able to confirm these

results. Yet it must be remembered that it is almost impossible to obtain the same conditions in such experiments.

In acute stagnation of the gastric contents milder forms of toxic material are frequent. It is probable, too, that excessive peptonization in the stomach from hyperchlorhydria or motor insufficiency, by the production of a large quantity of amphopeptone, may produce distress, vomiting, and subsequent intestinal irritation, and even decomposition. The fact that ethereal sulphates are in excess in hyperchlorhydria corroborates this view.

The toxins produced by the activity of bacteria in the wall of the stomach are similar to those produced at other sites—tuberculin from a tuberculous ulcer, pyrotoxin from phlegmonous gastritis, and unknown toxins from cancer. The toxicological chemistry would be incomplete without pointing out that toxalbumins originating at various points in the body and circulating in the blood may cause a variety of gastric lesions. According to Flexner's brilliant experiments, toxalbumins such as ricin and abrin cause necrosis of the lymph follicles in the stomach. A few months ago I observed post-mortem multiple ulcerations of the gastric lining, induced by a coagulation necrosis of the lymph follicles, and following hæmorrhagic disease of the new-born. The hæmorrhagic gastritis following scarlet fever, diphtheria, enteric fever, and Bright's disease has a similar causation. In chronic suppuration the amyloid degeneration of the blood vessels must also be ascribed to a toxin the nature of which is unknown. Thus it is seen that the toxicological chemistry in gastric diseases is assuming immense proportions, and the last word will not be said for some time.

PEDICULOSIS.

By A. H. OHMANN-DUMESNIL, St. Louis.

PEDICULOSIS, phthiriasis, or lousiness, is not as common an affection in this country as it is in Europe, where as great a degree of cleanliness does not exist as here, and where the population is more huddled together under unsanitary conditions and with environments in squalor. Of course, it is among the poorer classes, in all countries that the affection is principally observed. It has been a saying that "misery loves company," but the same may be said with equal truth of the animal parasites of the skin. They are much attached to their human hosts, and it is often with much difficulty that they can be dislodged. There are three varieties of pediculi, each of which will be considered separately, as they differ not only in appearance, but in their characteristics and the localities they infest. They are the *pediculus capitis*, the *pediculus corporis*, and the *pediculus pubis*.

PEDICULUS CAPITIS.—This trouble, also known as phthiriasis capitis, is one which is sufficiently common in this country to attract attention. And, as a matter of fact, the very circumstance of its not being a very common affection awakens much more interest in any given case than the same would in Europe, where lousiness is not only of ordinary but of

frequent occurrence. Pediculosis capitis is by no means a difficult matter. A little care exercised in making an examination will enable one to easily reach a diagnosis, because the parasite can be easily seen as well as its ova. In an ordinary case of this affection the patient complains of itching of the scalp. This sensation is not confined to any one point in particular, but seems to shift and change its location continually, occasionally occurring at several points at one and the same time. In such cases a moderate degree of scratching temporarily relieves the pruritus. But in a few moments the pruritus recurs; and it may be said to be incessant, with a few moments of rest continually occurring. When the parasites are numerous the itching is proportionately well marked. The presence of lice in the head was at one time considered a sign of health, and erroneously were the parasites supposed to produce health; whereas, the truth is, that they will not infest an unhealthy individual, or one with disease, as they are voracious and seem to be rather particular in regard to the quality of the food they devour. In pediculosis capitis the hairy scalp alone is affected, the pediculi confining themselves to this area exclusively. To find the little pests it is usually best to part the hair, as the former limit their roamings to the integumentary surface as a general thing. Upon the hairs will be found "nits," or ova, tightly glued to the shaft, and presenting the appearance of minute white bodies or nodes. Under a magnifying glass it can be seen that the glutinous material which holds the ovum to the hair is thrown around the latter so as to form a collar and extending for some small distance, thus insuring stability. It is on this account that nits are removed with difficulty.

When this form of pediculosis has existed for some time the multiplication of the pediculi, which is quite rapid, will have become so great, and the consequent irritation and itching so marked, that scratching is more severe in character. As a natural consequence, a more or less pronounced dermatitis is set up, which will vary in the severity of its character in different individuals. It is very apt to be multiform in its appearance, papules, pustules, and excoriations existing in various proportions, and accompanied by a glairy exudation which tends to agglutinate the hair. Fermentative changes set in and they are attended by a disagreeable, fetid odor of a more or less sour smell. Add to this the accumulation of extraneous matter, and the condition of extreme filth which is presented can be better imagined than described. As a result of scratching low down on the occiput and on the sinciput, we have the pruritus extended for some distance down the neck, and the efforts made to relieve this produce excoriations and crusts of a dirty color. This condition is known as *porrigo à pediculis*, and is well shown in Figure 1. The site of predilection of the *pediculus capitis* is the occiput, the vertex, the temples also being favored spots. Whilst the parasites are more frequently observed in those having long hair, they are often seen in those who keep the hair trimmed short. *Pediculosis capitis* is seen at all ages, and may be easily acquired by those of cleanly habits who may accidentally come in contact with the persons, clothing, or bedding of individuals afflicted with the trouble. Street cars, sleeping coaches, railway carriages, cabs, and the public conveyances are a frequent source of contamination. In former times, when hair cutting was not enforced, armies were notoriously affected by

pediculi. Modern methods of enforced cleanliness have reduced this, and as campaigns are usually of short duration, pediculosis is no longer observed to exist to the extent that it formerly did.

The pediculus capitis, or head-louse, is grayish in color and of an elongated ovalish form. The female is somewhat larger than the male, the size in general varying from $\frac{2}{3}$ " to $1\frac{1}{2}$ " in length, and about one-half of this in breadth. The head is somewhat acorn-shaped, provided with



FIG. 1. Porrigo e Pediculus.

distinct eyes, and with five-jointed antennæ, as shown in Figure 2. The legs, which are attached to the thorax, are six in number. They have four joints exclusive of the claw with which each one terminates. The legs and body are provided with fine hairs, which can be distinctly made out under the microscope. Strong mandibles exist, and they are of sufficient strength to enable the parasite to drive them through the stratum

corneum of the epidermis down to the rete malpighii, from which it derives its sustenance in the form of blood. The claws at the extremities of the legs are essentially intended for prehension. Assisting in locomotion, they are of great value to grasp the hair, rendering the position more firm and enabling the parasite to more successfully oppose efforts to dislodge it. They also afford the female greater security of position when laying her eggs. The habitat of the pediculus capitis is the scalp. The female, however, can be frequently found upon the hairs, where she goes to deposit and attach the ova for incubation. The ovum, or "nit," is a whitish, oval or pyriform body about $\frac{1}{4}$ " in length, and distinctly visible to the naked eye. As stated above, it is attached to the hair by a peculiar glutinous substance, the upper portion being that through which the young pediculus emerges. One or more ova may be attached to the same hair, and they are not necessarily of the same age. This can be easily demonstrated by microscopic examination, which will show them to contain embryos in different stages of development. The period of incubation



FIG. 2. *Pediculus Capitis*—(Male)—(Photomicrograph from Specimen).

varies from six days to a week, and the females are very prolific, nearly all their time being occupied in laying eggs. It may be readily seen from this what an enormous multiplication of the parasite is possible in the course of a very few weeks.

The treatment of pediculosis capitis must not only be curative, but preventive. It is absolutely necessary, in order to obtain a permanent release from the pests, to remove all causes of possible contagion. The means to ensure these conditions must be carefully carried out, and not neglected at any time. Individuals similarly affected are to be avoided. All head-coverings should be subjected to a process which will effectually destroy the parasites and their ova. Combs and hair-brushes must be thoroughly cleansed each time after being used, and no other individual should be permitted to use them any more than hats, caps, or similar articles of dress worn by one who has the affection. In the cases of males who have pediculi of the head, the curative treatment is a comparatively

simple matter. The hair is to be clipped very close and thus afford an opportunity of making applications thoroughly and to every part of the scalp. All ointments should be avoided, as they are disagreeable to use, greasy, and give a general feeling of discomfort, besides soiling wearing apparel, especially in children, as they will scratch and transfer the ointment on their fingers to the clothing. On the other hand, liquid preparations are more agreeable and cleanly, and can be applied more thoroughly. In the case of females with long hair a more complicated condition presents itself if cutting it off meets with objections. The hairs are frequently thickly studded with ova, and these must be gotten rid of *pari passu* with the destruction of the pediculi. To accomplish this purpose a thorough shampoo with *sapo viridis* is unexcelled, as this agent dissolves the nits and most thoroughly cleanses the hair. After the hair and scalp have been thoroughly dried, any one of a number of remedies may be employed.

Among the curative agents which have met with success may be mentioned one which is quite popular in Russia, not only for pediculosis, but for scabies as well. It is benzine, and must be well applied. It is but slightly painful; its disagreeable odor, however, will always limit its use. In this country coal oil is popular with the lower classes, and much used for this purpose. The disadvantage under which it suffers is that it is often followed by a dermatitis of a marked character which takes on an eczematous character. Among the highly lauded preparations are to be mentioned a solution of bichloride of mercury varying in strength from one in a thousand to one in five thousand. The infusion of staphisagria or stavesacre is also a favorite in popular medicine; it should be very thoroughly applied. In the use of all these it is well to wash the scalp thoroughly with *sapoderm* and water previous to each application; and this applies to all the other preparations which may be used for the destruction of pediculi. An eight per cent. solution of kreolin is claimed to be efficient. A six per cent. solution of carbolic acid is an effective lotion in pediculosis; but it usually permits the ova to hatch and a new crop of parasites to appear. One of the best remedies to employ for this purpose is campho-phénique, which not only kills the parasite and destroys the ova rapidly, but has the further beneficial effect of acting as a vulnerary on the secondary lesions which have been brought on by scratching. It may be used two or three times daily, but the scalp must be well dried previous to each application. The principal point to observe, no matter what the measures are which are adopted, is to be certain that the treatment is thorough. This implies not only the proper application of the remedy to the affected parts so as to reach every point, but also a frequency sufficient to accomplish completely the intended purpose, and not such an one as will permit of relapses through the successful hatching of undestroyed ova.

PEDICULUS CORPORIS.—Pediculosis corporis is an affection produced by the pediculus corporis, or pediculus vestimenti, the latter being, perhaps, the more appropriate name. This parasite is the familiar "gray-back" of our civil war, when it was prevalent to quite a marked extent. It is commonly enough seen under those circumstances in which masses of individuals are closely congregated and have no opportunities or inclinations to keep themselves and their clothing clean. Soldiers who are in camp for any length of time, laborers who live in camps, several occupy-

ing a small tent, the dwellers of tenement houses of the lower class, and similar individuals, appear to be particularly prone to be infected by the body-louse. As a rule, it is adults who are most apt to become the host of this parasite, and men more frequently than women. The itching which occurs is intolerable, and is most severe about the shoulders and sides of the body. However, the limbs and entire trunk are often the seat of this intense pruritus. The head is never attacked, and this is easily understood directly it is considered that the habitat of the *Pediculus corporis* is the seams of the clothing next the body and not the integument. The lesions presented upon the body which are the result of the depredations of the parasite are almost pathognomonic of the trouble, and, when found, should always lead to a most careful examination of the clothing worn next to the skin. The objective phenomena which are seen consist of secondary lesions, and these are, for the most part, excoriations of a marked character, four to six inches in length, and occur as several in



FIG. 3. *Pediculus Corporis*—(Female)—(Photomicrograph from Specimen).

number parallel to one another. They are caused by violent scratching, and occur in those portions most accessible to the finger-nails, viz.: the scapular regions, the flanks, the buttocks, the outer surfaces of the thighs, etc. The scratching is so severe at times as to produce bleeding and resulting crusts. If cutaneous tissues have been destroyed to any appreciable depth, shallow ulcers will form. The underwear will adhere to the denuded patches, and its removal will cause fresh bleeding, accompanied by pain. When a case has progressed thus far the arms and legs will share in the involvement, and the spectacle presented by a patient in this condition is that of a most miserable and forlorn being. Among the modifications observed in the objective symptoms occurring in *pediculosis corporis* is the presence of short and jagged scratch marks, due to digging of the nails into the integument. Another condition is seen which should not be hastily misjudged. This consists in a pigmentation of a light or dark-brown color, at first disseminated in macules of different sizes. In cases

of long standing the pigmentation becomes diffuse and involves the entire integument which has been subjected to the depredations of the parasites. In tramps and such individuals it is black and has acquired the name of "vagabond's disease." It is quite marked in character and is in keeping with the generally filthy appearance of the individual so affected.

The pediculus corporis is the largest of the pediculi. It sometimes attains comparatively enormous proportions, and it is very voracious, abstracting the blood of its host quite freely and in amounts that are relatively large. It is stoutly built, the female being considerably larger than the male. It varies in size from $\frac{3}{4}$ " to 2" or even more in length, being about one-third as broad. In color it is a dirty gray, which becomes of a reddish tinge after gorging with blood. The female is much broader than the male at the abdomen, on account of the ova which it must contain. She may be easily distinguished from the male by the notch which exists at the distal extremity of the abdomen, as is shown in Figure 3¹. This parasite is provided with six strong, four-jointed legs, having claws at their extremities and provided with hairs. The abdomen has seven well-defined notches on either side. The head is large and somewhat acorn-shaped, the eyes being quite prominent. The antennæ are quite strong, five-jointed and very mobile. The mandibles are unusually powerful and easily cut the integument of the host. As mentioned above, the parasites live in the seams of the clothing, and it is here that the female deposits her ova, which hatch in five or six days. It is stated, upon very good authority, that in eighteen days the young lice will reproduce. When the parasite desires food it will roam over the skin, and for this reason but very few are found outside the clothing. They can be easily shaken from the skin, and thus fall to the ground and soon gain new hosts.

The treatment of this condition is a very simple matter in principle, but rather difficult to carry out successfully in actual practice. It is to be divided into two parts—the treatment of the patient and that of his clothing. A good, thorough bath and the destruction of the clothing is certainly not a very difficult matter to order; but, unfortunately, it cannot always be carried out in every instance. What can be done, however—and, if it be thoroughly done, will result in success—is to adapt the means to be employed to the conditions which are presented. The treatment of the patient should consist in the thorough application of liquid camphophénique to the entire affected surface. This remedy not only kills whatever parasites may be lurking on the skin, but it also acts as an antiseptic and vulnerary, promoting a rapid healing of the dermatitis which has been excited by the scratching. Washing thoroughly with sapodermin and then applying a 1 to 1000 solution of bichloride of mercury is also a good plan. No method, however, will prove effective unless uninfected clothing be assumed after it has been employed. If, as is frequently the case, the patient has no change of clothing and underwear, the parasites should be picked out of the clothing and killed, a procedure which is quite easy, as the pediculi are found with but little trouble. To insure the destruction of the ova it is absolutely necessary to subject the clothing to a high degree of heat. After having done this, it is advantageous to soak the

¹ In this figure the ova in the abdomen can be clearly distinguished.

various articles of wear in a fairly strong alkaline solution, boil, and then thoroughly wash. Such a course will rid a patient completely of these parasites. But, unless he avoids those persons or localities where body lice flourish, he will acquire them again. Occasionally they may be accidentally picked up, as in the case of head lice, in public conveyances, or in unclean hotels, boarding-houses, or lodging-houses especially; in fact, wherever perfect cleanliness does not prevail, or where all sorts and conditions of individuals may congregate or occupy furniture which is, in turn, occupied by others.

PEDICULUS PUBIS.—*Pediculus pubis* is an affection more frequently observed in males than in females; the latter, no doubt, getting rid of the parasite without applying for medical aid. This is equally true in the case of the former. The trouble manifests itself by an intense itching about the *mons veneris*, and scratching does not seem to allay it by any means. Beginning with fugitive sensations of pruritus, this symptom after a short time becomes incessant and well-nigh intolerable. Should it be permitted to go on untreated for a protracted length of time, the itching ceases entirely or almost so, although the parasites will continue to



FIG. 4. *Pediculus Pubis*—(Female)—(Photomicrograph from Specimen).

increase in numbers. The trouble is not entirely limited to the pubic region. *Pediculosis pubis* may occur wherever there exist coarse or stout hairs, and it may affect individuals at all ages, from infancy to old age. It is not infrequently found that the parasite clings to the hairs of the legs, if these be at all coarser than the ordinary lanugo hairs. The hair on the chest and of the axillæ also afford a convenient *nidus* for the parasite. The beard is occasionally seen to harbor it, as also the eyebrows and the eyelashes. But here it stops. The scalp is never affected,¹ as the hair of the head is, doubtless, too fine to afford the grasp which the parasite doubtlessly needs. So far as secondary lesions are concerned, we find little or any occurring except in the axillæ and eyelids. In the former, excoriations and polymorphous eruptions occur as the result of the scratching; whereas, in the eyelids, a condition resembling *tinea tarsi* is

¹ In November, 1892, Rona presented a known exception in the case of a boy of fourteen, who presented *pediculi pubis* and their ova on the head, neck, eyebrows and eyelashes. The migrations of all the forms of *pediculi* have been mentioned by several authors, but they are the exception which go far to prove the rule.

developed as the result of the rubbing occasioned by the irritation. Bluish macules are occasionally seen upon the anterior and upper portions of the thighs, and are due to the bites of the pediculi. These *taches blenâtres*, as they have been denominated, are pathognomonic of pediculi pubis, and are supposed to be due to a fluid ejected by the parasites when they prepare to exercise their depleting power. The macules disappear spontaneously and seem to occasion no subjective symptoms whatever in the patient beyond more or less fright at their apparently sudden and causeless appearance.

The pediculus pubis,¹ or, as it is commonly known, "crab-louse," is of a very light grayish color, almost translucent at times. Its size varies from $\frac{1}{2}$ " to 1". The thorax is almost imperceptible, the form of the animal depending more upon that of the abdomen, which has been very aptly denominated shield-shaped, as shown in Figure 4. It is provided with small eyes, which show themselves quite distinctly. The head is



FIG. 5. *Pediculus Pubis*, Emerging from Ovum—(Photomicrograph from Specimen).

fiddle-shaped and the antennæ are rather long and five-jointed. There exist six four-jointed legs, the posterior two pair of which are provided with comparatively large and strong claws bearing a close resemblance to those of the lobster or crab. These claws are so muscular that, in efforts to dislodge the parasite from a hair, the hair itself is frequently pulled out. In addition to the legs which have been described, there are eight teat-like projections at the sides of the abdomen, they being prehensile feet, each one of which is provided with from four to ten hairs. These, no doubt, play quite a part in aiding the parasites to flatten themselves against the skin and thus elude observation. When so situated they are apt to be mistaken for small spots of dirt, and are very closely attached, it requiring quite some considerable force to detach them. The female, as is usual in

¹ Among the names applied to this parasite may be mentioned *phthirus inguinalis*, *phthirus pubis*, and *morpis*.

this family of parasites, has a notch at the extremity of the abdomen. Reproduction is very rapid, the ova being hatched out in from six to eight days. The ova are goblet-shaped, and so strongly attached to the hairs that, after hatching, the shells will remain *in situ*, as shown in Figure 5. The nits are more or less translucent, and exist along the shaft of the hair in varying numbers. The difficulty of dislodging them is very often the cause of the relapses which are so frequently observed in this trouble. The grown specimens of pediculus pubis are unusually voracious in their habits and endowed with more than ordinary vitality. They lie flat against the skin with great tenacity, by means of the four pairs of short feet with which they are provided, and being very pale in color, they often escape detection, and must be literally scraped off in order to be distinctly recognized. When in search of food they range about, most generally through the medium of hairs, although the clothing also acts as a carrier and transports them quite a distance from their original headquarters. Occasionally ova are directly transferred to new localities by means of the finger-nails.

The treatment of pediculosis pubis is not always as easy as some would have us fondly imagine. When the trouble is confined to the pubic region it is not difficult to obtain a successful and satisfactory result. But when it has been disseminated over broad and extensive areas it requires some care and attention to completely eradicate the little pests. The best method of treating the affection when it involves the eyebrows and eyelashes is to remove the pediculi and their ova with fine forceps. It is not a difficult thing to do, and the results are radical. As the parasites are never present in large numbers, very little time is necessary to remove all in one short sitting.

So far as other parts of the body are concerned, any one of a number of methods may be successfully employed. One which is very popular, but which is not only filthy but very frequently liable to bring on untoward effects, is the use of mercurial ointment. Other ointments are equally disagreeable to apply and should be discarded in view of the fact that more cleanly and agreeable methods are always at hand. Lotions are certainly more desirable, but thoroughness should be observed in their use, not only in so far as each application is concerned, but as well in regard to the length of time they are applied. They should be applied twice a day for no less than eight days, as this will insure the destruction of whatever parasites that may have been hatched during this interval, and will, furthermore, prevent the breeding of a new generation. An easily obtainable lotion is a six per cent. aqueous solution of carbolic acid. One which is of value when no excoriations exist is composed as follows:

R	Hydrarg. bichlorid	gr. iv
	Aceti aromat.	3 vi
M.		

When excoriations or other secondary lesions exist, campho-phénique is not only an efficient parasiticide, but it also acts beneficially as an antiseptic and antipruritic. Another method which is a favorite with patients is as follows: Wash the affected parts twice daily with sapodermin and then apply thoroughly the following:

R	Hydrarg. bichlorid	gr. ij
	Ammon. muriat.....	gr. iv
	Acid carbolic.....	ij
	Glycerini.....	ij
	Aquæ rosæ.....	q. s. ad 3 vi
M.		

All of these preparations are efficient, and they are all cleanly. In addition, they are antipruritic, thus fulfilling all the requirements of thorough treatment.

DOC BILL GILL'S DRUGS.

I'm Doc Bill Gill,
From Mo. Pike;
I'm nary little pill,
You bet that's right.

Thar's hydrarg. chlo. mix.,
The hydrarg. king;
Grains one to sixty-six
Cures everything.

Thar's ole blue pill,
Can't be beat
For all liver ill
And fever heat.

Thar's good ole opium,
Earth's easinist thing;
Brings pain to odium
Birth an' belly achin'.

Ole ipecac's all right;
A little limberin'
Make's man's head light,
Sends sours glimmerin'.

And ole glauber salts
Ain't mean a little bit;
She starts; nary halt—
Een to een she flits.

Thar's hydrarg. cum. crete,
A powder grey;
Betcherlife 'tis neat
For babe's puny way.

Thar's ole castor ile,
Musty, heavy stuff;

Cures all innard wiles—
Easy, never ruff.

Thar's rar ole quinan,
Man's bitter blessin';
God's great healin' bam
Tonic power posesin'.

Thar's ole iron tinct.,
Bilts man up;
Makes blood an' strength
Biger 'an a bull pup.

Thar's ole iodide potassy,
It's a bute;
Makes ole sick sassy,
Does it cute.

Just these here drugs
Are quantum suff.
To head off bugs
An' pizen stuff.

But fur these physics
Man's misfortune complete;
Death jest gets sizzin—
Regular dead heat.

Thar's anti this-that,
All forin mistakes;
Named big an' fat—
Coal ile fakes.

I'm death on lovin'
My dear ole frens;
When them I'm slighthin',
Doc Bill Gill ends.

Exdecim.

NEW YORK LETTER.

Dr. George E. Brewer recently presented to the New York Surgical Society a case of old rupture of the quadriceps extensor tendon, for which operation was done, followed by recovery. The man was fifty-eight years old and was admitted to the City Hospital suffering from an acute traumatic synovitis of the left knee. He was an alcoholic, constantly tearing off his splints and was very unruly, necessitating his remaining in the hospital a long time. Later it was found that while the effusion was absorbed, he was unable to walk, because he could not extend the leg on the thigh. Examination revealed a marked depression immediately above the patella, the patella being loose and not at all connected with the muscular structures above. A longitudinal incision was made, the center of which was immediately over the upper border of the patella; this showed a complete rupture of the tendon just above the bone, with marked contraction of the muscle, which left an interval of about three inches. The anterior portion of the synovial membrane was practically absent.

Heavy chromicized catgut sutures were passed through holes drilled through upper border of patella; a long pin of the heaviest variety of silver wire was passed through the tendon about one inch above the division; the parts were then drawn together with considerable force. The wound was closed without drainage and put up in plaster. No reaction followed. At the end of three weeks the dressings were removed and union was found to be complete. The man now has perfect use of his limb.

Dr. F. Tilden Brown presented a case of fracture of the patella requiring excision of the knee. The man had a fracture of his patella eighteen years ago, which was followed by ligamentous union. Flexion and extension became quite limited, and the two fragments of the patella became widely separated, about five inches, and, in addition, there was a backward dislocation of the tibia. A number of unsuccessful attempts were made to bring the ends of the patella together. The joint was then opened, and the condition of affairs thus disclosed was such that immediate excision of the joint was performed. The backward dislocation of the tibia was accounted for by Dr. Brown in the chronic disease of the ligaments surrounding the joint, together with disease of the articular surfaces. The latter presented a granular, spongy appearance. As the articular surfaces were separated, the muscular attachments of the tibia probably pulled the bone backwards.

Dr. Fred Kammerer presented a case of posterior gastro-enterostomy. He showed this case in order to call attention to a new method of applying the Murphy button which has been recently advocated in France. The method is as follows: Instead of introducing the usual purse-string suture, an incision is made in the intestine about two-thirds as long as the diameter of the button, and through this incision, stretched, the button is placed. Then a suture is applied to each side of the stump, thus closing

the incision formed about the button. The two halves of the button are then approximated. In his cases this method had been satisfactory.

Dr. Arthur L. Fisk presented a case of sarcoma of the testis. A middle-aged man consulted the doctor for a large tumor of the scrotum which had existed for twelve years. The swelling seemed to consist of a large hydrocele, with a solid tumor behind it. Twenty ounces of fluid were withdrawn, after which a solid, nodular tumor of the testis could be made out. The growth proved to be a sarcoma, and the interesting point in connection with it was the slow growth of the tumor.

Dr. Alexander B. Johnson referred to a case of sarcoma of the testis which had developed a few months after an inguinal hernia. The sarcomatous process extended well up the cord as far as the external ring.

Dr. Robbert Abbe reported a very interesting case of a physician who sustained a severe accident from a gunshot wound the results of which were shown so soon as he was able to bear operative interference. The pleural cavity contained a quart of blood, and there was a rent in the diaphragm large enough to admit the hand. The first urine drawn contained almost pure blood. The liver was torn away from the suspensory ligament, and an incision over the right kidney showed that the upper third of that organ had been torn away. There was no injury to the lung or laceration of the intestines. No attempt was made to suture anything. The parts were thoroughly cleansed after removal of blood-clots, and then the space between the ruptured liver and kidney and that above the liver was packed with iodoform gauze. The rather free hemorrhage from the liver was thus checked. The patient rallied from the operation under the use of an saline infusion.

The subsequent course gave rise to much anxiety. The temperature varied from 102° to 104° F. The wound over the liver secreted bile for about one month; then the flow of bile ceased and the wound in the pleural cavity gradually closed, as in empyema. The flow of urine from the wound over the kidney continued for two and one-half months; then the sinus closed, subsequently reopened twice, and finally closed permanently. The patient has regained health and is doing very well.

Dr. McCosh referred to a case of a man who had had fourteen attacks of gall-stone colic; upon admission into the hospital he had for several weeks been running a temperature which was supposed to be due to distention of the gall-bladder. About ten ounces of fluid were withdrawn from the gall-bladder, and on examining this fluid it was found to contain typhoid bacilli and gave a distinct Widal reaction.

In carbolic acid poisoning it is known that the antidotes are: (1) stimulants; (2) soluble sulphates; (3) sulphate of magnesium; and (4) soap (Bilroth). Dr. Seneca Powell claims that one of the best antidotes, and one that has not yet received recognition, is alcohol. Experiments made by Dr. Powell and attested to by Dr. A. Lawrence Gnichtel, have shown that the naked hand can be plunged into pure carbolic acid and

then into alcohol without injurious effects. The effects of alcohol as an antidote to carbolic poisoning *per oram* is the same.

The number of heroes among medical men were largely increased during the destruction by fire of the large hotel, the Windsor. Your correspondent knows of several who, at the risk of their lives, rushed into the burning building and rescued many of both sexes. If facts were known, many physicians and surgeons would have their names enrolled among the heroes.

The County Medical Association has been asleep for a long time, judging from past attendance, but with Dr. Wiggen as presiding officer it has sprung into life, as shown by the interesting program and large attendance which marked the last meeting.

Dr. A. Ernest Gallant read an address before the New York Training School for Nurses; the subject was "The Administration of Anæsthetics." It was his purpose to impress the importance of the necessity of nurses and internes having, through training by competent instructors, a thorough understanding of the use of anæsthetics while in the hospital.

The People's University Settlement Society of New York has just completed its first year of work, and has done much to furnish instruction on health, this instruction being given by some of the most prominent physicians on such subjects as "Prevention of Disease," "Food," "Drink," "Cleanliness," "Clothing," and the like.

At a meeting of the trustees of Columbia College, President Low announced that a gift of \$50,000 had been received (the name of the donor to remain secret) for the endowment of a children's ward in Roosevelt Hospital, to be known as the "Abraham Jacobi Ward for Clinical Instruction."

Harlem Hospital boasted of the largest patient ever admitted to that institution. She was a paralytic weighing seven hundred pounds, and it required the services of nine men to take her to the fourth floor.

E. FRANKLIN SMITH, M. D.

At a meeting of the Northeast Missouri Medical Association held at Memphis, Missouri, the following officers were elected:

J. T. Jones, M. D., President, Queen City, Missouri; W. E. Dicken, M. D., Vice-President, Kahoka, Missouri; E. E. Parrish, M. D., Secretary, Memphis, Missouri; O. F. Pile, M. D., Treasurer, Memphis, Missouri. The next meeting will be at Unionville, Missouri, July 11, 1899.

RAILWAY SURGERY.

L. L. Gilbert, Assistant Counsel Pennsylvania Railroad, read a paper at the last meeting of the New York State Association Railway Surgeons on "Surgical Service on Railways." The discussion following the paper presented many interesting points, and the conclusions arrived at were the following:

1. That some form of hospital service is humane and a necessity on all lines.
2. A railway hospital service is an economy.
3. It prevents litigation and favors compromise.
4. A contract hospital service costs more than a company hospital service.
5. Financial aid to the family after the death of an employee.
6. Employees favor the hospital service, and in return it improves the social relations between them and their employer.
7. The higher the character of work the better the results in surgery.
8. The plan in operation on the Plant system, and known as the relief and hospital department, is considered the most complete, and has more desirable features connected with it than any other form of hospital service. Physical examination is one of the important features of the Plant system.
9. The form known as the regular hospital system, with a chief surgeon, stands next to that of the Plant system.

The rate of assessment for maintaining the Hospital Association upon the A., T. & S. F. Railway is as follows:

From employees earning during the month

\$ 30 or less,	-	-	-	-	-	25 cents.
30 and less than \$ 60,	-	-	-	-	-	35 "
60 and less than 100,	-	-	-	-	-	50 "
100 or over,	-	-	-	-	-	\$1.00

The above deductions shall be made from total earnings as shown on pay-rolls. The deductions used in maintaining the hospital departments upon the Missouri Pacific, the M., K. & T. and the Texas and Pacific Railway companies are: \$50 and under, 25 cents; 50 cents a month over \$50 a month. The A., T. & S. F., with five hospitals, only treated 1,355 patients in all of their hospitals; the Missouri Pacific Railway Hospital, with two hospitals, treated 5,609 in-patients and 23,635 out-patients.

The most frequently injured employees upon a railway are first the brakemen; next, section laborers, then switchmen. Thus, out of 4,094 railway injuries, 596 brakemen were injured, 495 section hands and 352 switchmen. The most fatal injuries generally occur to the trespasser or non-employee. Thus, out of 260 non-employees 69 were killed. More employees upon the railway are injured between the ages of twenty to thirty than any other period of life.

Dr. R. C. Taylor, Assistant Chief Surgeon of the Texas and Pacific Railway Company, paid a visit to his friends in St. Louis recently.

During the year the hospital department of the Texas and Pacific treated 4,022 cases, of which 358 were surgical. Dr. B. F. Eads is Chief Surgeon, with headquarters at Marshall, Texas.

The following is the staff of the A., T. & S. F. Hospital Association:

Dr. J. P. Kaster, Chief Surgeon, Topeka, Kan.

Dr. E. C. Chapman, Santa Fe Hospital, Ft. Madison, Ia.

Dr. A. H. Wright, Surgeon Santa Fe Hospital, Ottawa, Kan.

Dr. J. D. Freeman, Surgeon Santa Fe Hospital, Topeka, Kan.

Dr. E. B. Gossett, Assistant Surgeon Santa Fe Hospital, Topeka, Kan.

Dr. H. W. Grelitz, Assistant Surgeon Santa Fe Hospital, Topeka, Kan.

Dr. Frank Finney, Surgeon Santa Fe Hospital, La Junta, Colo.

Dr. E. B. Shaw, Surgeon Santa Fe Hospital, Las Vegas, N. M.

Dr. H. M. Smith, Assistant Surgeon Santa Fe Hospital, Las Vegas, N. M.

The total number of cases, both sick and injured, treated in all the A., T. & S. F. hospitals, were 1,355.

The Kansas City, Fort Scott and Memphis Railway Company Hospital Association has been under the able management of its Chief Surgeon, Dr. N. J. Pettijohn, since its start. The association hospital is in Kansas City, and during the year past there were treated 18,000 cases. The hospital staff consists of seventeen consultants and ninety-five local surgeons.

The St. Louis and Southwestern Railway Hospital Department has its headquarters at Tyler, Texas. Dr. C. A. Smith is Chief Surgeon, with full staff of internes and consultants. There were 9,861 employees receiving hospital benefits during the past year.

Treated at Tyler, Tex.,	-	-	-	2806
“ “ St. Louis, Mo.,	-	-	-	307
“ “ Cairo, Ill.,	-	-	-	332
“ “ Jonesboro, Ark.,	-	-	-	621
“ “ Pine Bluff, Ark.,	-	-	-	3975
“ “ Waco, Tex.,	-	-	-	119
In-patients at Tyler,	-	-	-	1701
Total,	-	-	-	9861

Surgical Service on Railways.¹—A SERVICE WITH LOCAL SURGEONS ONLY.—What is the best plan for “surgical services on railways” must be determined by the length of road, the number of employes, the speed, frequency and class of trains, and the character of the country through which the road passes. A plan that would be suitable for roads running through the thickly settled portions of the East, with competent surgeons and hospitals every few miles along its line, would not answer for roads

¹ Read by Geo. Marsden, Esq., Middletown, N. Y., Claim Agent Ontario and Western Railway, before the eighth annual meeting of the New York State Association of Railway Surgeons, held at the Academy of Medicine, New York City, November 17, 1898.—Abstracted from *International Journal of Surgery*.

running through the West, where surgeons are few and far between, and hospitals are unknown outside of the largest cities.

A small road running between unimportant termini has no use for vestibule trains with dining and café car attachments; large systems, like the New York Central and Pennsylvania, could hardly satisfy their patrons by carrying them on the way freights. In like manner, the small road can hardly expect to furnish *relief associations and hospital departments that may be absolutely necessary to the large systems.*

The New York, Ontario and Western Railway occupies a place midway between these two classes. It is a single track road with an aggregate mileage of 477 miles, running through the States of New York, New Jersey and Pennsylvania. The average number of employes is about 2800, of whom about twenty per cent. are engaged in what might be called the extra hazardous service—that is, the operation of trains.

It is especially fortunate in having a superior class of employes, a large proportion of the men having grown up in the service, and some of them having been with the road since its organization thirty years ago. A great deal of care is exercised in the selection of new men, who are largely drawn from the towns along its line. Their character is carefully investigated, and their application for employment must be signed by at least two men in the company's employ.

It is not surprising, therefore, that the number of accidents happening on the road is very small. During the past eight years the average number of accidents to all classes, "passengers, employes and others," which required surgical attention, was sixty-three per year. This does not include every accident, but only such as required the services of a surgeon, and where the man laid off on account of the injury more than one day. Slight injuries which did not prevent the man from continuing his work are excluded.

The plan at present adopted by this company for the care of injured persons is as follows: An arrangement is made with a number of surgeons at various points on the line, by which they agree to attend professionally any person injured on the road within a prescribed distance from their residence, or that may be brought to them; it being understood that, in the first instance, the company has the first claim on their services at any time of the day or night, and to the exclusion of all other business. Two of these surgeons are stationed at each division terminus, and others are located at convenient points, averaging twenty-five miles apart.

In addition to this, we have an arrangement with one of the New York hospitals, and with the local hospitals at Middletown, Scranton, Utica, Oneida and Oswego, by which injured persons may be taken there for treatment at a fixed rate per day for their board and nursing, the company paying extra for the surgical attendance. We also have stretchers at a number of stations on the line for carrying injured persons about or transferring them to a hospital.

These surgeons are not paid a salary, but are given an annual pass over the road, and are paid the regular fee bill for what services they perform.

While this plan is not wholly satisfactory to the company, yet, on the whole, it is doubtful if a better or more economical arrangement could be

made. With the limited number of employes and the few accidents occurring, a company hospital would hardly be feasible, especially in view of the fact that we have so many local hospitals on which we can call.

A large proportion of the injuries which required surgical attendance in the past were sustained by freight brakemen in coupling and uncoupling cars equipped with the old style link and pin drawbar. With the introduction of the automatic coupler this class of injuries has decreased rapidly during the past few years, and as all cars must be equipped with this type of coupler within the next year, these accidents will soon practically cease. The equipping of freight cars with air brakes will also decrease the number of accidents happening from men running over the tops of cars, and a freight brakeman's life will then be almost as safe as that of a passenger trainman. This has been the experience on our road, and inquiry of other claim agents shows a similar experience on other roads.

In my opinion, this arrangement of local surgeons and the use of local hospitals, *in the case of the smaller roads*, is best both for the injured person and for the company. For the person, because he is at once given prompt surgical attendance (and in the case of this company that means the best obtainable), whereby his sufferings are alleviated and a cure, if possible, is quickly brought about. For the company, because it has at hand one who is interested in obtaining the best result as quickly as possible, with the least expense to the company. The use of the local hospitals also eliminates the exorbitant bills for board and nursing generally rendered where the injured person is cared for at some country hotel or boarding-house, and the hordes of sharks and ambulance chasers are kept at a distance.

To the claim department the surgeon is of special assistance. From him is obtained information of the nature and extent of the injury and its probable duration, so that in settling with the injured person the claim agent has a reliable basis on which to work; information not always obtainable when an outside surgeon has charge of the case.

How to Economize Life.—A man has just so many hours to be awake, and the fewer of these he uses up each day the more days will he last. I believe that a man might last two hundred years if he would sleep most of the time. That is why negroes live to such an advanced age—because they sleep most of the time. The proper way to economize life is to sleep every moment that it is not necessary or desirable that you should be awake.—TESLA.

The Heart in Typhoid Fever.—That (an unusually small heart) is what I want you to note carefully as one of the great cardiac signs in the later stage of typhoid fever. To my mind it is one of the crucial signs in typhoid fever. Why is it small? The heart wastes because the muscles waste. Wasting is a great feature in typhoid.—DR. A. E. SANSOM.

SURGICAL SUGGESTIONS.

The Vitality of Epithelial Cells, and the Etiology of Cancer.—What the nature of the irritant may be that causes the localized overgrowth of epithelial cells which we call cancer, we are yet no nearer knowing than we were before the demonstration of its exact pathology, more than half a century ago. Notwithstanding all the claims that have been made of the causal influence of external biologic factors, parasites from bacteria, and fungi, schizomycetes, and blastomycetes to various forms of animal parasites, gregarines and protozoa generally, we are no nearer the solution of the problem than we were before.

Of late the subject has been approached from the other side, the essential vitality of epithelial cells and their reaction to various irritants, and some most interesting results have been obtained by various observers. In Dr. Hektoen's review of this subject for the first number of *Progressive Medicine* (the advance sheets of which are in our hands), we find some striking observations on the subject collated. Ljunggren, a Scandinavian physician, for instance, found to his surprise that he could preserve carefully sterilized bits of human skin in sterile human ascitic fluid for months, and that the cells of the tissues retained their vitality. Three months after their removal from the body the cells of the deeper layers showed well-stained nuclei and good protoplasmic structure. Successful transplantation was made with pieces kept in such sterile fluid for a month. Small pieces of the transplanted skin were removed at varying intervals, and it was found that a marked proliferation of epithelial cells showing many nuclear figures had occurred. Special precautions were taken, which absolutely assured the absence of cells that might have grown in from the surrounding cutaneous margin and so vitiated the conclusions. The transplanted cells not only grew over the raw surface, but penetrated, also, into the granulation tissue beneath, after the manner of a beginning carcinomatous growth.

Almost more interesting and suggestive than these are the observations made by Loeb here in America on epithelial regeneration. The abstract of them by Dr. Hektoen in *Progressive Medicine* is so clear and succinct that we copy part of it *verbatim*: "From the margin of a tissue-defect huge epithelial protoplasmic or plasmodial masses move in a sliding manner over the naked surface, inclosing and dissolving the crust and other obstacles. Regenerating epithelium readily removes such substances as cartilage when placed in its way. Below the protoplasmic layer epithelial cells wander in from the margins of the defect, and often grow down into the connective tissue, apparently checking the growth of the latter. The process is closely allied to changes in carcinoma. At the same time active changes, such as mitoses, occur in the epithelial cells removed some distance from the margins of the wound. * * * Loeb believes that the wandering of the cells, as outlined, is in response to stereotropism, and forms a determining factor in inducing mitosis in the remaining cells." The pregnant significance of these observations, especially the apparent action at a distance of epithelial elements in arousing epithelial cells into repro-

ductive and germinal activity, can scarcely be overestimated. This is the essence of carcinoma, though in healthy subjects the vital resistance may be sufficient to restrain the morbid overgrowth that would otherwise result.

According to Loeb, "if a small bit of epithelium is placed in the center of the crust covering a defect in the skin, it begins to send out processes in all directions into the crust, the cells acting as separate organisms, independent of blood supply or nervous influence." We are evidently closely in touch, in these manifestations, with the as yet inexplicable vital forces that we see at work in all their untrammelled energy and power in cancer. Further observations are needed to give the deductions from these observations practical application. They constitute, however, the most hopeful aspect of the present pathological work on cancer as far as regards the near prospect of discovering its etiology. Their value as additions to biological science, especially to that mysterious problem, the struggle for life among the various cells of the body tissues, can scarcely be overestimated.

Probing a Wound.—For probing, a blunt-pointed, flexible rod should be used; the probe extremity should be sufficiently large, so that it should not easily make a passage for itself in the tissues; the shaft should be flexible, so that it may be adapted to the principal course of the track that is being explored, and should be long enough to admit of being easily and distinctly controlled by the hand of the surgeon. Such a probe having the tip made of porcelain-biscuit, and known as Néleton's probe, has the special value that when the tip comes in contact with the bullet at the bottom of the wound it retains the mark of the lead upon it, and thus gives an absolute demonstration that it has been in contact with the bullet. Before using it its freedom from any prior stain must be ascertained. The stem of an ordinary clay pipe has been used extemporaneously for the same purpose. The "telephonic probe" of Girdner is an ingenious and reliable application of the telephone for identifying the location of the bullet in the tissues. This device may be extemporized whenever an ordinary telephone receiver is accessible; one of the wires of the telephone having been attached to the probe, the other is made fast to any metallic plate, which is now placed upon any portion of the surface of the body previously moistened. The probe is now inserted into the wound for the purpose of the search, while the telephone receiver is held to the ear of an assistant; whenever the probe comes in contact with the bullet a distinct click is heard in the telephone—the click which is not elicited except by contact with metal. Other methods for utilizing the electric current for detecting and locating the bullet imbedded in the tissues have been devised; some of these are ingenious and successful as experiments, but none are susceptible of being utilized in general practice.—DR. LEWIS STEPHEN PILCHER (*The Treatment of Wounds, Its Principles and Practice, General and Special*, page 281).

MEDICAL NOTES.

Premature Baldness.—Some one said, not long ago, that the ideal symbol of faith was not the traditional maiden clinging to the Rock of Ages, but the bald-headed man confidently consulting the bald-headed specialist and faithfully looking for relief for his bald-headedness. It is a very suggestive symbol of human limitations, but when hair follicles are gone it would take a special creative act to replace them and the hirsute appendage they furnish. The treatment of premature baldness, however, is not so hopeless if it is taken in time; and skin specialists are agreed that much can be done for the condition if properly treated by prophylaxis and early attention. In these preliminary stages, and before the real beginning of the alopecia, properly so called, the cases come into the hands of the general practitioner. Too often he is prone to make little of them, or to consider that they are inevitably progressive anyhow, and so a deformity is allowed to supervene that is unsightly and a cause of a great deal of annoyance to the patients.

Prophylaxis is especially important. Dr. Jackson, in his "Manual of Skin Diseases," insists on two things: the influence of heredity in these cases and the ætiological importance of dandruff. Fathers and sons for generations may grow bald early, or the inherited peculiarity may have to be traced to the grandparents or some collateral line. Not all the children in one family in which baldness is hereditary are bald, but it will manifest itself in two or three of the children. The necessity for prophylaxis in these cases is evident. *Hygiene of the scalp* must begin at the very beginning of life and be continued persistently. Its details, as given by Dr. Jackson, are irksome, but most mothers whose sons are threatened with their father's early baldness, will be perfectly willing to take the additional trouble; and as for the sons themselves, as soon as they come to the years of *indiscretion* (or vanity), which is generally considered to be about the age of fifteen, they can usually be depended on to take for themselves all necessary precautions to stave off the unwelcome parental inheritance.

As to dandruff, it constitutes, according to Dr. Jackson, the cause of seventy per cent. of the premature baldness that occurs. Not that everyone that has dandruff will become bald—experience is against that; but it is very often true that an error in the nutrition of the sebaceous glands causes sympathetic trophic disturbances in the hair follicles and hair production ceases. In this class of cases early treatment is of the utmost importance. Lassar's method requires the taking of a good deal of trouble on the part of the patient, but it is deservedly popular because of its frequent success. In general, however, the cure of the condition causing the dandruff, which is now considered to be, in all cases, a form of eczema, seborrhoicum, will stop the loss of hair. Persistence of treatment for months is necessary, but will nearly always be crowned with success if the condition was not too far advanced when treatment was begun. When there is absolute baldness it is extremely doubtful if anything can make the hair grow.—JACKSON.

Points in the Arsenical Caustic Treatment of Cutaneous Cancers.—

1. The arsenious acid caustic treatment of skin cancers does not contemplate or depend upon the actual destruction of the new growth by the caustic.

2. The method is based upon the fact that newly formed tissue of all kinds has less resisting power than the normal structure when exposed to an irritation and its consequent inflammation. Hence, the former breaks down under an "insult" which the latter successfully resists.

3. If, therefore, the whole affected area can be subjected to the influence of an irritant of just sufficient strength to cause a reactive inflammation intense enough to destroy the vitality of the new cells, the older normal cells will survive.

4. Arsenious acid of properly mitigated strength is such an agent, and its application causes an inflammation of the required intensity.

5. It, therefore, exercises a selective influence upon the tissues to which it is applied and causes the death of the cancer cells in localities outside the apparent limits of the new growth, where there is as yet no evidence of disease.

6. It is superior, in suitable cases, to any method, knife or cautery, which requires the exercise of the surgeon's judgment as to the extent to which it is to be carried. That that judgment is often wrong, and necessarily so, is shown by the frequency of recurrence under these methods even in the best hands.

7. It is applicable to all cutaneous carcinomata in which the deeper structures are not involved, and which do not extend far onto the mucous membranes.

8. It is easy of application; it is safe; it is only moderately painful; and its results compare favorably with those obtained with other methods.
—GOTTHEIL.

German Specific Against Sea-Sickness.—Bright-red spectacles, accompanied by internal doses of calomel, form a new German specific (?) against sea-sickness. Sea-sickness is due to a lack of blood in the brain, while (according to Epstein's investigations) red sends blood to the brain with a rush. By looking at one point for some time through the red glasses the patient is cured.

Blood-Letting in Italy.—In some parts of Italy blood-letting is still held to be a cure-all. Some time ago a sick child was bled until the mother timidly protested. The doctor assured her that one more application of the cups would insure recovery. In spite of this, the next morning, when the doctor came, the mother sobbed out that her baby was dead. "Madam," said the doctor, "be comforted by knowing that your child died cured."—*The Medical Age*.



Warner's Pocket Medical Dictionary. This useful little volume comprises the pronunciation and definition of 10,000 essential words and terms used in medicine and associated sciences. The price, 75c., brings it within the reach of all. There are many physicians who can study this dictionary with profit.

Text-Book of Anatomy, Physiology and Hygiene. By E. FRANKLIN SMITH, M. D. Duodecimo, xvii., 197. New York: William R. Jenkins.

Dr. Smith has compiled a work which will prove a superior textbook. We heartily commend this book.

The International Medical Annual and Practitioner's Index: A Work of Reference for Medical Practitioners. Seventeenth year. 1899. New York: E. B. Treat & Co., 241-243 West Twenty-third street. Price, \$3.00.

This volume of the "Medical Annual" contains 758 pages written by thirty-two English physicians. The work compares favorably with preceding ones of the same series.

The Pathology and Treatment of Sexual Impotence. By VICTOR G. VECKI, M. D. From the author's second German edition. Duodecimo, pp. 291. Philadelphia: W. B. Saunders. 1899.

This is a most fascinating book on an important but oft neglected subject. The author's statements are reasonable and his advice seems good. There is so much of value in this little treatise that we would advise our readers to buy the book.

Gerrish's "Anatomy by American Authors." Gerrish's forthcoming *Anatomy by American Authors* promises to be the work for which teachers and students have long been looking. Its editor, Professor F. H. Gerrish, of Portland, has selected as his fellow-contributors leading anatomists throughout the country, wisely restricting their number to accord with the best division of the subject, gaining thereby unity in result joined with the highest authority. The list includes Professors Bevan, of Rush in Chicago; Keiller, of the University of Texas; McMurrich, of the University of Michigan; Stewart, of the University-Bellevue College in New York; Woolsey, of Cornell Medical College, likewise in New York, and Gerrish himself, who is not only editor but perhaps the largest contributor.

The plan of the work judiciously avoids the unimportant and exceptional, reserving its space for those portions of anatomical knowledge which are necessary to the intelligent study of physiology, surgery and internal medicine. The authors have endeavored to stand in the place of a living teacher to the student, selecting such portions as will be of actual service to the pupil in his study and to the practitioner in his subsequent clinical work, clarifying obscurities, giving most help in the most difficult parts, and illustrating everything by all available methods. Pictorially *Gerrish's Anatomy* will be by far the most lavish work ever offered on a subject which can already boast of many elaborately illustrated text-books. The engravings number about one thousand, their size is large enough to make visible every detail, colors have been employed more liberally than ever before, and lastly, the labels of the parts have been conspicuously engraved upon them, whereby a glance gives not only their names, but also their position, extent and relations, obviating entirely the slow, toilsome and wasteful mental processes necessitated where only reference letters are employed.

In an early issue we shall give our readers a review of the book itself.

The Medical News Pocket Formulary for 1899. Containing sixteen hundred prescriptions representing the latest and most approved methods of administering remedial agents. By E. QUIN THORNTON, M. D., Demonstrator of Therapeutics, Pharmacy and Materia Medica in the Jefferson Medical College, Philadelphia. In one wallet-shaped volume, strongly bound in leather, with pocket and pencil. Price, \$1.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

A more helpful book it would be difficult to devise. No man, except a specialist like the author, can be expected to keep posted on all the new remedies and to reject those which are valueless, together with those which are outworn, leaving a net residue representing the body of the best therapeutics at date. Dr. Thornton has done this, arranging the prescriptions under alphabetical headings of disease, so that the medical man, be he physician, surgeon or specialist, can instantly run his eye over the authoritative recommendations of the world's leaders in all the practical branches of medicine in the broadest sense of the word. The author has subjected each prescription to careful study and verification, and has appended useful annotations, and indications as guidance in meeting the various stages and complications. Due attention has been paid to palatability and pharmaceutical elegance, points of increasing practical importance. The volume opens with a number of pages of useful data.



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NEW REMEDIES.

Nosophen.—(By R. F. Amyx, M. D., Senior Assistant, St. Louis City Hospital.)—The value of therapeutic agents is only satisfactorily determined by clinical tests, and reports of such tests furnish the best method of presenting the merits and employment of remedies. With this fact in view, I present several cases in which nosophen was used at the St. Louis City Hospital.

CASE 1.—John K., æt. thirty-six; nativity, Ireland; occupation, laborer; domestic relations, single. Family history is good. Habits: uses whisky and tobacco. Indulges excessively in venery. Previous history: had measles, scarlatina and pertusus during childhood. Had malaria several times, pneumonia five years ago, gonorrhœa twice, no history of syphilis. Present history: patient entered hospital for the purpose of being treated for sores on his penis. Examination of penis revealed several chancroids on glans penis and prepuce. The lesion on glans penis included the corona glandis and the whole right side and under surface of the glans. Those on the prepuce were located at fold of transmission. Nosophen was employed as a local application for a period of three weeks. After the first week the profuse secretion which existed at the time patient entered hospital had completely disappeared, and the lesions presented a clean, granulating surface. At the end of the third week the chancroidal lesions had completely resolved. During time of treatment patient complained of no pain, nor were there any toxic symptoms.

CASE 2.—Hattie S., æt. twenty-five; nativity, Missouri; social condition, married. Patient was admitted to hospital for treatment of laceration of perineum, this condition having been produced one week before coming to hospital. Examination showed that laceration extended down to external sphincter ani. Patient stated that physician who delivered her sutured the laceration immediately after delivery. Suppuration developed several days later, and sutures sloughed. When patient entered the hospital, the wound was covered with pus, and sides of wound were ragged where sutures sloughed, leaving wound completely open. Patient was anæsthetized and wound cleansed, disinfected, and necrotic tissue cut away. Nosophen was liberally dusted over wound, and wound again sutured. Nosophen was again applied externally. This dressing was continued for two weeks at the end of which time sutures were removed, and aside from a few slight stitch abscesses the wound was completely healed. While it is not evident that the nosophen naturally shortened the period of repair, the fact that the first sutures sloughed, while the second ones did not at a time when there was a greater liability for sloughing, all points to the good influence of the dressing used.

CASE 3.—Thos. H., æt. thirty-five; nativity, Mississippi; occupation, laborer; social condition, single. Patient came to hospital for treatment for several large ulcers on his back, resulting from a burn which occurred three months previous. Ulcers were about two inches wide and four inches

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The phosphorus, being in its lowest state of oxidation, is free from irritating properties, and acts as a powerful hæmatogenic, thus counteracting the pathological action of the quinine upon the blood, while the tonic, anti-periodic and germicidal action of the compound is superior to that of the sulphate quinine.

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long, and very deep with edges undermined. Both were covered with pus, and there was considerable necrotic tissue. The latter was cut away and surface of ulcers thoroughly cleansed. Ulcers were covered with nosophen and a dry dressing applied. After several dressings the pus disappeared, and surface was covered with clean granulations. Patient did not remain until ulcers entirely healed; but the effect of the nosophen dressing was very satisfactory, as the pus which had been a great source of annoyance at the beginning had entirely disappeared; and at time the patient left the hospital the ulcers were reduced in size two-thirds.

Nosophen was used with gratifying results in a number of other cases, in which more or less pus was present. A uniform result was obtained in as far as its use as a dry dressing was concerned, and the unpleasant odor of some other dressing powders was not present.

Euquinine.—(G. Howard Thompson, M. D., Professor Materia Medica, St. Louis College Physicians and Surgeons.) My experience with euquinine has been confined chiefly to malarial cases, with here and there a case of *la grippe*. In a previous report¹ I showed the value of this remedy in cases of idiosyncrasy against the various other alkaloids and preparations of cinchona. I now desire to show its value as a remedy in malaria in its various other manifestations.

For two years I have used it almost exclusively in treating children, wherever there was an indication for quinine, for the following reasons:

It represents fully the entire desirable therapeutic action of quinine sulphate in malaria, meeting both the antipyretic and antineuralgic indications without presenting any of the objectionable features.

It has no bitter taste; in fact, it has practically no taste at all, and may be taken clear and washed down with a swallow of water, milk or other beverage.

It produces no gastric irritation, nausea nor anorexia.

It produces no cardiac depression.

It produces no objectionable head-symptoms and but slight ringing in the ears, even when administered in large doses.

It produces no erythema medicamentosa nor other untoward effects, even in those with an idiosyncrasy against other quinine preparations.

It produces no after-effects.

Euquinine, or ethylcarbonate of quinine, is of neutral reaction, soluble in alcohol, chloroform and ether, but practically insoluble in water, which accounts for its lack of taste. Physiologically it requires to be given in nearly twice the amount of quinine sulphate to produce the equivalent therapeutic value, and, lacking the objectionable features of the latter, may be given in quantity sufficient to produce therapeutic results and accomplish cures in cases where quinine itself could not be administered, as the following case will illustrate:

Baby A., seven months of age, presented characteristic symptoms of intermittent fever of the tertian variety, the chill coming every other day at six o'clock in the evening, and temperature of 105° following immediately. Baby was at once put on euquinine as in the following formula:

¹ TRI-STATE MEDICAL JOURNAL, vol. vi., p. 152.

R. Euquinine..... ℥ ij
 Syr. yerbæ santæ..... fl ʒ iij
 M. et Sig.—A teaspoonful every two hours; two teaspoonfuls at 2 P. M.
 preceding the expected chill.

The expected chill did not take place. After the suppression of the chills the directions were changed to three times a day. The baby made a good recovery. This dose is the equivalent of one grain of quinine sulphate to the teaspoonful, an amount which, considering the undesirable effects of quinine, I would regard as too much for a baby seven months of age. Only an agent presenting exclusively the therapeutic and not the untoward action of quinine could be safely given to a baby of this age.

As an anti-neuralgic in cases of chronic as well as acute malarial infection, euquinine is also as efficient as quinine sulphate, as the following case will illustrate:

Peter B., aged fourteen years, had chronic malarial poisoning characterized by a severe supraorbital neuralgia. Quinine sulphate had been given in five-grain doses, but was followed by nausea, headache and ringing in the ears. Patient refused to take quinine any more. Euquinine in ten-grain doses was substituted and administered at four-hour intervals. It produced no untoward effects, gave immediate relief, and, after continuing for three days without recurrence, continued the remedy in six-grain doses three times a day. This boy made a good recovery.

Although I have never been much in the habit of treating whooping-cough except by inhalations, I did get very good effects in a case whose circumstances were such that my customary treatment could not be carried out. It was a child five years of age, to which euquinine was given in four-grain doses three times a day, with the result that the spasmodic efforts at coughing were greatly alleviated and the course and severity of the disease materially shortened.

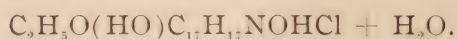
George F., aged three years, a case of chronic malarial poisoning, with a daily fever of 102°, with headache and neuralgic pains in the back and legs, and entire loss of appetite; no cough nor catarrhal symptoms. He never had taken medicine kindly. At the time I met him I gave him a dose of two grains of acetanilid for immediate effect on his fever and neuralgia, and prescribed euquinine in doses of two and a half grains every three hours. The fever and neuralgia subsided within two hours and did not recur again, although he had been sick for a week preceding. His recovery of appetite was immediate, and in two days was as strong as ever.

This remedy, I believe, completely substitutes quinine sulphate wherever it is indicated in the treatment of diseases of childhood; wherever quinine is not tolerated by reason of idiosyncrasy, and wherever else, for that matter, that quinine sulphate or any other representative of the cinchona group of alkaloids is indicated.

Sixth and Washington Avenue, St. Louis.

Dionin: A New Morphine Derivative.—A new morphine derivative has recently been introduced to which the name "dionin" has been given. It is described by Ludwig Hesse (*Pharm. Centralh.*, xl., p. 5) as the hy-

drochlorate of morphine mono-ethyl ether, or ethyl-morphine, having the composition



It occurs as a white, somewhat bitter, micro-crystalline powder, which, under the microscope, is seen to consist of fine needles. It melts at 123° – 125° C., and decomposes at the latter temperature. Dionin appears to be very serviceable therapeutically, because it affords neutral solutions which may be advantageously employed subcutaneously. It is soluble in about 7 parts of water, in about 1.4 parts of alcohol, and in about 20 parts of syrup; while it is insoluble in ether and in chloroform. It is precipitated from its solutions by most of the alkaloidal reagents. The pure base, morphine mono-ethyl ether or ethyl-morphine, is readily liberated by alkalis, and crystallizes from water also with one molecule of water of crystallization. It is quite insoluble in water, one part dissolving in 286 parts of the latter; it is very soluble, however, in alcohol, 100 parts of the latter dissolving 140 parts of the base. It is also easily soluble in ether, but difficultly so in benzene, and is almost insoluble in benzin. Dionin has been employed by Dr. O. Schroder and by Dr. J. Korte (*Therap. Monatsh.*, xiii., p. 33) in a score or so of phthisical cases, and from the results obtained the author believes that the preparation is of unquestionable value therapeutically. It appeared to be an excellent and reliable means in the treatment of cough due to irritation in the early stages of pulmonary phthisis; and he recommends it to be used instead of codeine and morphine in all cases of this disease that are not far advanced, as well as in chronic bronchitis, pulmonary emphysema, and bronchial asthma. Not a single failure was observed by the writer among the cases so far treated by him. The dyspnoea and cough were always relieved, the asthmatic attacks cut short, and expectoration favorably influenced. Compared with morphine, dionin is more mildly narcotic in action, has scarcely ever any noticeable effect on the digestive tract, and has no noteworthy by-effects. Compared with codeine, on the other hand, it is found to be more powerful generally, and more persistent in action; it affords better and quieter sleep, and increases expectoration considerably. As a general analgesic, dionin is not as reliable as morphiné, but it may, nevertheless, be employed in chronic, painful affections, either internally or subcutaneously, and as no tolerance or habit is ever established, may shield many patients from acquiring the morphine habit. Its particular sphere of action will, however, doubtless be in the treatment of coughs due to irritation, and those of bronchitis of every origin; in phthisical subjects, as it affords, besides, general quiet and good sleep, stimulates expectoration, and appears to exert also a beneficial influence on the night-sweats.

Dionin may be given in doses of 0.015 gm. ($\frac{1}{4}$) several times daily, or in one dose of 0.03 gm. in the evening, in solution, syrup, or pill form.

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THE INCREASE OF AND THE MODERN CAUSES OF INSANITY.

Insanity seems not only to keep pace with an increase of population, but with the various phases of human development. According to the census of the United States, from 1850 to 1880, a period of thirty years, the population doubled, while the insane increased six-fold. Thus, in 1850 there were 15,610 insane persons, while in 1880 there were 91,994. In the last decade the increase in population was thirty per cent., and that of the insane one hundred and fifty-five per cent. It is asserted that many of the insane are not produced, but are only revealed by civilization. It is an established fact that civilization has developed new forms of disease which had not existed before. It is asserted that general progressive paralysis was formerly so rare that no special name was given to it until our time; and now it appears to form the larger number of the maladies of the wealthy, of thinkers, and of military men. The many neuroses and psychoses produced by alcoholism are pre-eminently modern, hence has become a disease-producing agency of the present; the ancients did not drink alcoholic beverages, and in the Middle Ages they were used as remedial agents. It would seem that with an advanced condition of civilization the use of alcoholics increase. Again, with the increased demands upon the nervous system engendered by modern life, stimuli of the nervous system are sought; hence alcoholism, morphinism and cocainism indicate that stable alterations have been produced upon man's nervous system and have begot a long series of pathological conditions. The frenzied and feverish activity of modern life has one constant tendency towards producing brain strain, begetting multitudes of neurasthenics, hysterics, megalomaniacs

and monegomaniacs. Such is the deep, profound and inground created master passion for wealth that all of God's gifts are sacrificed in the hope of obtaining gold. Indeed, the intense seeking after gold often assumes a fixed idea as intense as any fixed idea in the insane, and thus it is that often it has such close association with crime and tints insanity of the present day with elements connected with it. There is no doubt but that civilization constantly deranges the equilibrium of the mind, and is, therefore, an indirect cause of the increase in insanity. The suggestive idea of a civilization possessing sufficient nerve-exhausting elements readily moulds the insane, as suggestive ideas have force. Social factors, political events, wars, religious heredity, are ever-acting causes. Occasional causes of a moral character are only changed in phase, whilst general causes are much the same. Religious insanities are relatively infrequent now in comparison to what they were formerly; the character of the delusion and hallucinations in some are always a reflex of the paramount and fixed idea of the age by which they are surrounded. Materialism has replaced spiritualism; hence the insane of to-day have delusions and hallucinations pertaining to the material type. The ponderous influence of wealth-getting at this present time is seemingly the most terrific influence in begetting insanity which man has ever seen. Congenital and acquired defective nervous organizations become insane owing to the forces surrounding the seething mental activity engendered in obtaining wealth. Dr. John H. Girdner, in a recent number of the *North American Review*, well expresses the influence of the present causes of insanity, and concludes with the following:

"The struggle for existence, modern inventions, steam and electricity, and the mad rush for wealth, result in ever-increasing demands upon the brain and nervous system. And under this strain, many who have congenital or acquired defective nervous organizations become insane, just as the same class formerly did as a result of fear and brooding over theological problems.

"The insane are not now tormented by the devil and his imps, but telephones and phonographs are continually ringing in their ears. Others suppose they have steam engines in their heads, and many imagine they are persecuted by men of large fortunes or of great political power. Formerly, those who were afflicted with delusions of grandeur were prone to imagine themselves to be the Savior of the world or the Virgin Mary, or some eminent saint. Now they are more apt to think themselves to be great inventors or powerful politicians, or the possessors of untold wealth. The delusions of the insane always take form and color from the questions and problems which are most absorbing at the time."

THERE IS A BRILLIANT FIELD IN RAILWAY SERVICE FOR THE BEST BENEFITS IN ORGANIZATION AND CO-OPERATION—A SUGGESTION.

The railway employé has long since passed the period in which poverty is an attendant on his vocation. He has now every element conducive to his better being. His wages are uniformly higher than in any other vocation employing so large a mass of people. Compare him to the "sweater," who gets sixty-nine cents a week; to the iron laborer, who

gets one hundred and forty dollars a year; or to the medical profession of Italy, whose average earning power for twenty-two thousand does not reach a dollar a day. Thus, in Italy, the *condotta medica*, salaried physicians, get only two hundred and forty dollars a year, and are compelled to face a future which seems destined to even reduce this. It can be truthfully said that no labor in the world to-day stands in such splendid position as does railway labor. Their life is one of opulence in comparison to the great mass of the laboring world, and their future certainly suggests improvement in the best of every element. When the history of any vocation shows a constant improvement in wages and *morale*, plainly then it is only a mere matter of time, irrespective of all adverse conditions, when this vocation will be superior to the influences which surround labor.

It can be truthfully said that the result of organized labor upon the railway has guaranteed to every man the use of all of his powers exclusively for his own benefit. He is freed from the attendant elements of failure which meet those in the commercial world *in tesse*. While his is a dangerous vocation, still, from a financial point of view, it presents more normal points of progress and less general hazards than the great bulk of vocations of earth. In this country he has organized efficient labor associations, which have successfully protected him and increased his worth and efficiency, and has shown that these associations are conducted in a forceful and thoughtful manner. It must be admitted that the protective labor organization as now existing upon the railway, and the relief measures now in force, place the railway employé upon a plane which promises much in the future. There are many points at present which meet the management and the employé of the railway which have to be reconciled. Among them are railway relief organizations, the perfection of an organized service, and the methods of physical examination of the employé. Railway relief insurance departments have been tried for many years, and their benefits and defects sufficiently studied. The same can be said regarding the hospital departments. There exists at the present time the same conditions which have existed for many years—that is, not sufficient trust upon the part of the railway employé regarding the honest intentions of the management, and a lack of trust upon the part of the management as regards the capacity, sincerity and ability of the employé. Such differences must be reconciled before the best results can accrue; hence it would seem that there is only one way to do this, and that is to have a conference and all points discussed honestly and in an unprejudiced manner. Let the heads of the various labor organizations as at present upon the railways meet those who are at present at the head of the railway relief associations and hospital departments, and discuss the best elements at present devised and other questions, such as physical examination of employés. The great fault with our present relief measures seems to be the lack of standard hospital departments, particularly as run upon the existing idea of some general manager or general superintendent. There is no accepted plan, but generally an individual view of the question. If the better elements of relief organization and hospital and other relief measures are duly studied by such a committee, wherein labor is represented by its highest ability and the railway represented by those who have made this a study, surely, some good must result. The

employé upon some of the greatest lines of the country is insured against sickness, accident and death, and pensioned when too old to labor. Surely, the field of investigation is one of rare importance; and if this committee, so constructed, should thoroughly investigate, taking the best elements of all measures, and adopt a standard, it would be of immense benefit to the railways of this country and their employés. The heads of organized labor know the wants of the employé; the heads of railway relief organizations know the business elements and practical points. This union, then, would be competent to reconcile many differences and place the railway employé at the summit of every condition necessary to his condition as a laborer. The immense benefit to the railway in having contented and efficient employés is plainly manifest. There is nothing in this suggestion that can be considered by either side as lessening discipline or tending to ulterior results in any way prejudicial to the parties concerned.

THE HALTING OF OLD AGE.

Dr. Julius Althaus' search for the fountain of youth and the ablation of an early death certainly possesses some elements of reason and sense. One of the saddest pictures in scientific life was from Brown-Sequard's endeavor in this direction with testicular juice. Dr. Althaus divides old age into two classes: *senium prematurum* and *senium proprium*. Old age proper begins at about the sixtieth year and is ushered in by the same changes of the nerve cells of the brain that characterizes *senium prematurum*. The brain in old age dies gradually from within outward, just as growth starts from within outward. If we can retard the progressive death of the nerve cells, we can stop old age; hence he applies electrical currents to parts of the brain to improve the nutrition of the brain. And he avers that he has made old men five or ten years younger in a few weeks under this treatment. Still, we are of the opinion that the prevention of death from old age, or rather premature old age, must depend upon so many conditions that exceptions will be extremely infrequent. There is as much sense in certain rules of longevity as there is in the attempt to make man live longer than was intended. Thus, according to M. I. Holl Schooling, of Brussels, there is an old rule for finding the length of a man's life if the present age lies between twelve and eighty-six years. This is the rule: "Subtract the present age from eighty-six and divide the remainder by two; the result will give the number of years you have yet to live. This old rule was discovered by the mathematician De Moire, who emigrated to England from France in 1865 and became a member of the Royal Society. The curves given by M. Schooling are interesting to examine. A first diagram shows the chance that every man has of living one year longer than at his present age: At birth this chance is five to one; at five years, one hundred and nineteen to one; at ten, five hundred and twelve to one; at fifteen, three hundred and forty-seven; at twenty, two hundred and seven; at twenty-five, one hundred and fifty-six; at thirty, one hundred and twenty; at thirty-five, ninety-seven; at forty, seventy-eight, etc. M. Schooling affirms from his calculations that of one thousand individuals of sixty years, five hundred and ninety-nine will live to be seventy, one hundred and twenty to eighty years, and

seventeen to be ninety. Of one thousand nonagenarians four will reach their hundredth year. We may add that for men of sixty-five the average expectation of life is ten and a half years."—*Literary Digest*.

MUSHROOM SERUM FOR SNAKE-BITES.

Prof. Phesalin of Paris, has devised a new serum from the mushroom which he avers is competent to nullify the effects of venomous snake-bites. He maintains that his serum is a rather broad application of the principle *similia similibus curantur*—that is, a poison against a poison. He avers that snake poison produces a species of intoxication, and that fungi have similar effect, and that the intoxication caused by the mushroom serum counteracts the poison of the snake. That both the mushroom serum and the snake poison act through the nervous system upon the heart. In various experiments with animals bitten by snakes, even showing collapse, an injection of the serum immediately nullified the effects of the venom. That one of his employes happened to be bitten by a snake and that after a strong injection of the serum the advanced stage of snake intoxication disappeared rapidly. He claims also that immunity against snake poison can be established by a species of vaccination. He has already tried it upon dogs and found that at least one month after vaccination and that time completely ablates the effects of the mushroom serum.

PIANO PLAYING AS A CAUSE OF CHLOROSIS AND NEUROSIS.

It has remained for Dr. Waelzhold, of Paris, to show that excessive piano-playing ruins the health of young girls. Dr. Waelzhold maintains that "chlorosis and neurosis from which so many young suffer may be largely attributed to the abuse of the piano." Of course, he proves this by statistics and, as he claims, by clinical facts. Thus he takes one thousand young girls who began piano-playing before twelve years of age and one thousand who never learned the piano at all. Of the one thousand who learned the piano, six hundred suffered from nervous disorders, whilst only one hundred of the non-learners were affected. This assertion of Dr. Waelzhold is certainly startling enough, and we imagine must have its basis existing from other causes than mere fact of piano-playing. It is a just and sensible conclusion that if piano-playing were even remotely a pathologizing agent the world would have heard of it before. The intemperate exercise of the brain in any direction, even with the most natural of functions, would, we imagine, as readily produce a series of neuroses as piano-playing. No amount of attempted explanation can show that piano-playing can be any more nerve exhausting than many other forms of mental use. Dr. Joseph Collins, in speaking of Dr. Waelzhold's views, believes that when a man picks out one thousand young women from the various conservatories he starts in a realm in which tense conditions and ill health prevail. This is particularly the case in Europe. Continuing, he says:

"There is, doubtless, a serious condition of things in this regard among students of music, especially in the European centers, but to understand it one must consider the condition of those people and their habits and surroundings.

"Most of them are women of an emotional type, prone to nervous affections. And they are nearly all poor. They are obliged to use unimaginable economy. They have not enough food, or good enough food, to eat. Their clothes are insufficient and they are not kept properly warm. They are prone to introspection and morbid trains of thought, such as death, sex, the hereafter, social economy, occultism, and so on.

"Now, when you add over-exertion, under-exertion, under-nutrition and unhealthy contemplation to a naturally emotional temperament you are likely to get a few cases of blood depravity and nervous wreck which are not altogether chargeable to the piano.

"Dr. Waelzhold's secondary statement that out of one thousand girls who never touched a piano only one hundred suffered from the troubles in question is equally unconvincing, because in order to get one thousand girls who have never touched a piano it would, doubtless, be necessary to pick out women of unusually strong, unemotional or masculine types. These would probably be women of a more robust make-up, less prone to nervous disorders.

"I do not think that women in well-to-do families suffer from over-practice. They do not work hard enough. It is only under the spur of necessity that such overwork is performed. But I think it would be well, in any case, that parents should consult a physician regarding the amount of work which it is safe to put upon a young girl."

WERE THE ANCIENT EGYPTIANS CANNIBALS?

It would appear that archæological discovery has demonstrated that the ancient Egyptians, 3000 to 3500 B. C., were cannibals. Prof. W. Flinders Petrie, an Egyptologist and excavator of fame, has successfully brought to light this fact. In the recent unearthing there were found piles of ribs and flesh-scraped bones, showing where human teeth gnawed them. Professor Petrie found these evidences while excavating a group of old Mastaba tombs of 3500 B. C., in a cemetery near the village of Deshashab, some sixty miles south of Cairo. Professor Petrie, from extended investigation, concludes that the source of Egyptian cannibalism can be traced, and is probably due, to the Libyans who invaded and occupied Upper Egypt about 3000 to 3200 B. C. They habitually cut off the head and mutilated other parts of the body, and ate the same before burial.

EXCISION OF THE SUPERIOR CERVICAL GANGLION FOR GLAUCOMA.

In this latter part of the world's most wonderful century, the hope of to-day becomes the accomplishment of to-morrow. Procedures in surgery which only a decade ago were regarded as impossible are now matters of almost daily observation. Old theories, systems and methods of treatment give way to new facts. The pathology of yesterday is regarded as the error of to-day.

In the treatment of glaucoma little progress was made between the time that Von Graefe advocated iridectomy and the date when Jonnesco advocated his operation. This covers a period of forty years. Iridectomy, and the later operation of sclerotomy, must now give way, it would seem, to the excision of a portion of the great sympathetic nerve.

The pathology of glaucoma—the theoretic pathology—must be changed. The retention theory of Max Knies and Adolf Weber would seem strangely out of place in the light of recent investigations; and the nervous origin of glaucoma seems to be as good doctrine as any.

The recent excision of the right superior cervical ganglion in a case of unilateral glaucoma, by Drs. James Moores Ball and Edward C. Renaud, assisted by Dr. Willard Bartlett, all of St. Louis, would seem to be the first operation of its kind in America.

The patient was a female, deaf and dumb, aged fifty-six. She had had pain in and around the right eye for two months. Vision was limited to perception of light. Tension was plus three. Ophthalmoscope showed a cupped disc. In other words, this was a case of painful, absolute glaucoma—a condition for which removal of the eyeball is often demanded. The operator, however, decided to remove the superior cervical ganglion of the sympathetic. This was done. An immediate relief of pain and a reduction of tension; lachrymation of the right eye, and moisture in the right nasal cavity, with a slight ptosis, were the immediate effects of the operation. There was no change in pulse or respiration. The pupil, widely dilated before the operation, at the end of a week had contracted slightly. The operation was made at the Pius Hospital, in St. Louis, on May 15th, in the presence of eight physicians.

It was Jonnesco, of Bucharest, who first performed this operation—in August, 1897. Of late the most remarkable results have been reported by continental writers in the treatment of exophthalmic goiter and idiopathic epilepsy by removal of the cervical ganglia on both sides.

A history of the interesting case herein mentioned was presented to the St. Louis Academy of Medical and Surgical Sciences on May 23d, by Drs. Ball and Renaud. At the same meeting Dr. Bartlett gave a *résumé* of the literature of the subject.

CONDEMNATION OF THE ST. LOUIS MEDICAL SOCIETY.

The St. Louis Medical Society must go to Canosa! The Missouri State Medical Association has declared, by an overwhelming vote, that no more delegates will be received from the St. Louis Medical Society until after the latter shall have changed its constitution and expelled its unethical members. There are so many of this class that reformation will be a severe strain.

It is unfortunate for the many ethical members that they also suffer in this condemnation. The sins of the unjust are thus visited upon the innocent,

The Missouri State Medical Society took a decided stand against the admission of Dr. W. H. Mayfield, of sanitarium fame. We understand that another hospital proprietor would have received similar treatment if he had appeared at the meeting.

The clean members of the St. Louis profession owe a vote of thanks to the Kansas City Academy of Medicine and the Jackson County Medical Society for taking the initiative in an unpleasant work.

SALT FOR THE EARTH.

Salt in one way is as necessary as the air we breathe. An old German saying is "salt and bread makes the cheeks red," thus showing it necessary for the health. If there has ever been any dread that salt is not abundant enough, that certainly would be dispelled by reading a communication in the *Pharmaceutical Era*. Thus it says: "Say Salt Lake (Utah) is 100 miles long and has an average width of 27 miles; that gives an area of 2700 square miles. There are 27,878,400 square feet in a mile; so the lake has an area of 75,271,680,000 square feet. Take 20 feet as the average depth; then 20 times 76,271,680,000 will give us 1,505,433,900,000 cubic feet as the contents of the lake. Now, 16 2-3 per cent., or 1-6 of this, according to analysis of eminent chemists, is salt and sulphate of soda. That is: the lake contains 250,905,600,000 cubic feet of salt and sulphate of soda. Of this mass 1-8 is sulphate of soda and 7-8 common salt. A cubic foot of common salt weighs 80 pounds, a cubic foot of sulphate of soda 50 pounds. So we have as the contents in part of this unparalleled reservoir of wealth 1,568,160,000,000 pounds, or 784,080,000 tons of sulphate of soda; and 17,560,339,200,000 pounds, or 8,789,169,408 tons of salt. Compared with this vast liquid treasure-house of riches, the greatest bonanza mines of Utah or of the United States dwindle to beggars' penny boxes."

A RATHER TOO SUCCESSFUL RESULT.

One of our Southern confreres having read in the *British Medical Journal* that a Turkish physician, Dr. Menahem Hodura, had accomplished wonders in restoring hair to bald heads—that he not only restored hair, but restored the original color. He read that small bundles of hair stems cut with scissors and implanted in the incisions made with scarifier can take root and grow, forming in time long and viable hairs.

A perfectly bald patient applied to him for treatment. There was not a hirsutic twig in sight upon this man's head, and, unfortunately, our medical friend had none. But he was equal to the occasion. He had watched his colored man bobbing the tail of a mule, accordingly saved several bundles of hair. After forming these bundles in the proper length he scarified the scalp of his patient and implanted them in the furrows cut by the scarifier. They seemed to have unusual vigor and grew into a hirsutic ridge. When kept properly cut they certainly add to the looks, but if permitted to grow long they evince a disposition to grow tail-like; and should a fly alight on them, immediately they proceed to wag *en masse*, and effectively dislodge the winged irritant. He cannot wear this hair long, for if a fly light upon the face these bundles act in unison to such an extent as to dislodge what head-gear he has on. On the whole, the patient would be satisfied, if it was not for a wagging tendency of his scalp and tail-like hairs.



CLINICAL LECTURE.

SURGICAL CLINIC.¹

By CHARLES MCBURNEY, M. D., of New York City,

Visiting Surgeon Roosevelt Hospital, Consulting Surgeon Presbyterian and St. Luke's Hospitals, Etc.

INGUINAL HERNIA.—This man was operated upon last Saturday for what appeared to be an ordinary inguinal hernia which had descended into the scrotum. For the last ten years he has worn a truss. He never has had a strangulation of the sac. However, when I did the operation I found I had a rare condition to deal with. The part of the intestine that came down into the sac of the hernia was the sigmoid flexure of the colon and it was bound down by peritoneum. The hernia took place between the folds of the mesentery and was not covered by peritoneum at all. So that it was impossible to ligate the sac at the level with the peritoneal surface, because if you did you would ligate the sigmoid flexure. So I reduced the sigmoid flexure and carried back with it a portion of the sac, and then closed the orifice by sutures. The patient has made an excellent recovery, without any disturbance of any kind, and will undoubtedly be up at the end of two more weeks and be satisfactorily cured.

APPENDICITIS.—This next case was a difficult one. I operated upon him at a favorable time, for he had only had two mild attacks of appendicitis, both occurring within a few weeks. I looked upon the opportunity of getting entirely well as being the principal reason for operating. Each attack lasted only three days, and they had all the characteristic signs. Tenderness existed at the time of operating. I did the operation, splitting the abdominal walls so as not to injure them. I found great difficulty in finding the appendix at all; I had difficulty in finding the caput coli, and I do not know just what the internal anatomy of the young man is. I have never done this operation before without being able to recognize the caput coli. I found the tip of the appendix away up in the groin, entirely covered by false membrane or folds of the peritoneum; I was able to dissect it out but with difficulty. The appendix was found to be a long one and had a stricture about its middle, and the conditions were present which favored an acute outbreak of acute appendicitis. The patient has made a good recovery, as you may see, and he will be out of bed in about a week's time and allowed to work without any restrictions. This is a case illustrating well the character of attacks of appendicitis that we often come across. A grave condition often exists without marked rise of temperature—lasting but two or three days—and we often find the appendix full of pus, even distended with pus sometimes, and, therefore, the patient is in a very dangerous condition. So many of these cases are constantly occurring, and they are so grievous to us that, unless the appendix be seen, I am less and less inclined to dismiss a case recovering from an attack as cured. My own preference is, whether after one or two attacks, to oper-

¹ Held at the Sym's Building, Roosevelt Hospital, April 8, 1899.

ate upon the patient before another attack comes on; for I look upon the operation as one of safety.

FOR DEFORMITY OF ANKLE; SYME'S AMPUTATION.—This young man is twenty-two years of age. When about two years of age he had spinal cord inflammation, which left him with very extensive paralysis of the right leg from the trunk to the toes. There exists some muscular control, although he is much crippled. The hip-joint is in good condition, although it is not perfect. At the knee we find that we have a very loose joint with some posterior displacement of the head of the tibia—outward rotation of the tibia and complete deflection—so that it is impossible, even with passive motion, to extend the limb. The patient has no power of extension at all. The leg is small and there is paralysis of the muscles which control the foot. There is a drop of the foot extending down to the toes; the limb is in an imperfect and useless condition. The question now arises how best to treat it. The patient now uses two crutches. If he can be given a limb that will bear his weight, he then can go without crutches. What I have concluded is best for him is this: I shall do a resection at the knee-joint so that there may be given him an ankylosis between the tibia and the femur. If we can give him ankylosis between these bones, of course, he will not have any motion at the knee.

This condition at the ankle-joint shows that something must be done; either a permanent appliance applied or an operation performed. One could resect the surface of the tibia and astragalus and produce ankylosis there. But the patient has paralysis to such an extent that, even after ankylosis had occurred, there would be a crowding of the toes. Taking all in all, the question resolves itself into whether an apparatus or an enormous operation would be the most feasible, and I have concluded that the wisest thing to do is to amputate and so give him a stump which will enable him to bear his weight upon it. Syme's amputation will be performed at the ankle-joint; this amputation will give the best results, because the character of the integument will permit the patient to stand upon the stump well, and it is the only amputation here which will permit the patient to engage in work right off. The resulting stump has the advantage, too, that it permits the application of an artificial foot to a much greater perfection than any other amputation that can be made here. I might do a Pyrogoff's amputation, which gives a longer limb. This amputation consists in the application of the sawn surface of the os calcis to the sawn surfaces of the bones of the leg; this will interfere with the application of an artificial limb serving the best purposes. Syme's amputation is performed as follows: Start the incision close to the fibular malleolus and carry it to a point on the same level of the opposite side, which is a little below the tibial malleolus. Cut clean through all tissues down to the bone. The anterior incision joins the two points just mentioned, at about an angle of forty-five degrees, to the long axis of the leg. In dissecting the posterior flap, avoid lacerating the soft parts and hug the os calcis closely, drawing away the flap with a retractor while dissecting. Any hemorrhage is controlled by an assistant compressing the femoral artery. Ligate bleeding vessels. Disarticulation is accomplished by opening the joint in front and dividing the lateral ligaments by entering the point of the knife between the sides of the astragalus and the malleoli. Next the

tibia and fibula should be cleared. Sawing the malleoli obliquely, instead of removing them together with a thin section of the articular surface of the tibia, gives a better stump and does away with the sharp edges that result when the latter procedure is used. Bleeding vessels being ligated, the parts flushed with saline solution, the pendulous flap is then brought up in place and interrupted sutures of retention—catgut—are used, followed by coaptation sutures of black silk. This amputation provides a beautiful drainage from the cup-shaped cavity left. Rubber dam is then inserted into the lower edges of the wound, over which is placed loose gauze, then gauze bandages.

FOR DEFORMITY OF KNEE; RESECTION.—Having done a Syme's amputation on the right ankle, I will now proceed to do a resection of the right knee. Of course, this second operation could have been postponed till another time, but I did not care to occupy his time further. An assistant again compresses the femoral artery. The leg is flexed upon the thigh, and an incision is begun at the posterior and upper border of one condyle, passing around to the same point on the opposite condyle, the lower portion of the curved incision corresponding to the insertion of the ligamentum patellæ. This incision should extend down to and include everything to the bone, including the ligamentum patellæ. The joint is opened and the patella is removed. Next, the lateral and the crucial ligaments are divided. Notice the position of the patella in this instance, being displaced outwards over the lower end of the external condyle; this will enable you to appreciate the amount of displacement of the tibia. Next, the femur is pushed forcibly forward, so as to protect the popliteal vessels, and the femur is sawn across, taking off as thin a slice as possible. The head of the tibia is then treated in the same manner. I now find that, when the bones are placed in apposition, there is too much tension posteriorly, so I shall correct this by taking off another very thin slice of the femur. We are trying to give him a straight, solid limb, and one upon which he can bear his weight. The bony surfaces are now united by passing through them absorbable sutures. It is desirable in all these cases not to disturb them any more than possible, and so absorbable sutures are used. Next, the parts are flushed with saline solution, and small pieces of rubber tissue are inserted into the angles of the wound. Loose gauze is applied, then a gauze bandage, and, lastly, plaster of Paris dressing, in the folds of which are placed several thin strips of wood. The dressing will not be removed for two weeks, unless certain indications arise. The stump can be dressed without disturbing the knee-dressings.

FOR RECURRENT APPENDICITIS.—This next patient is forty-two years of age. He gives a history that for the past seven or eight years he has suffered from attacks of abdominal cramps, with accompanying fever, chills, etc. The pain was referred to the right iliac fossa. Nine months ago he ceased to have attacks until two weeks ago, when there was a repetition of them, characterized by the same symptoms: abdominal cramps, fever, chills, and pain which rapidly localized itself in the right iliac fossa. At present there is no fever, the tenderness is partially localized, there is no tumor, and so I am curious to find out just what the lesion is. He has not advanced to a dangerous condition. One would expect, after so many attacks, a great deal of inflammatory changes, and, in conse-

quence, one usually finds great difficulty in removing the appendix. Yet, that does not always happen. Patients may have several attacks of appendicitis and yet the lesions may amount to almost nothing. I am going to attempt to remove the appendix by a small division of the muscular fibers, although the lesion may be such as requires an enlargement of the incision. In a working man it is far preferable to have as small an opening as possible, in order to lessen the danger of hernia following; if it is necessary to enlarge the opening it can be done. An incision is made over the site of the appendix through the skin and fascia, which exposes the aponeurosis of the external oblique, the fibers of which are divided in a direction down and forwards. The internal oblique and transversalis muscles are not cut, but separated with the handle of a scalpel. We are now down upon the peritoneum, which must be carefully cut. Here we have the large intestine and the caput coli. I now feel the appendix distinctly, which is a large body and closely adherent. I will now break up the adhesions and attempt to dislodge it. The appendix is very much altered, and it is very difficult to dislodge it from its attachments. The mesentery I will now tie off; it is very thick and very vascular, and so heavy that if but one ligature be applied it might give way; so I will apply several ligatures. Having separated the appendix from its mesentery, I will now pass around it a purse-string suture, cut it off, cauterize the end with the actual cautery, invert the stump, and so close it. The peritoneum is then sewed together, the split muscles allowed to fall to their normal positions and held there, the integument sewed by continuous sutures and the external wound dressed in the usual manner.

The Treatment of Vaso-Motor Coryza and Hay Fever.—In an article on the use of protargol in rhino-laryngological practice (*Archiv. fuer Laryngologie*, Vol. IX., 1), Dr. Arthur Alexander calls especial attention to the efficacy of this drug in the treatment of hay fever, particularly when contrasted with the inefficiency of other measures. In Professor Fraenkel's clinic in Berlin, with which the author is connected, it had lately been the custom to wash out the nasal cavities of subjects suffering from vaso-motor coryza (hay fever) with a 1:2000 solution of nitrate of silver, in order to reduce the sensibility of the nasal mucous membrane, which is the special aim of treatment in vaso-motor coryza. This treatment, however, proved to have the disadvantage of exciting profuse secretion and giving rise to neuralgic attacks in sensitive persons, even when used in solutions of 1:4000. Since replacing the nitrate of silver by means of protargol, however, these symptoms of irritation are no longer observed. It has been found that the application of a five per cent. solution with massage of the mucous membrane is very well tolerated. Under this treatment the watery secretion disappears after a few applications, although they must be continued in order to avoid recurrences. Dr. Alexander cites several cases in which, after other procedures had failed, a few protargol injections into the nose produced very favorable results. In cases of hay fever the treatment should be begun three to four weeks before the commencement of the season at which the disease is most prevalent.

ORIGINAL ARTICLES.

LET THE TERM "AMPUTATION" BE ABOLISHED ALTOGETHER IN ALL TRAUMATISMS IN- VOLVING THE EXTREMITIES OR THEIR APPENDAGES.

By THOMAS H. MANLEY, M. D., of New York City,

Visiting Surgeon to Harlem Hospital, New York.



IT WAS the writer's privilege, four years ago, at the annual meeting of the National Association of Railway Surgeons, in Chicago, and later in New York, to remind surgeons that the principles which governed their conduct in the past in the management of all extensive disorganizations of the extremities were now antiquated, and that the surgeon who hastened to dissunder a mangled limb or a part of a limb, until absolutely assured that all hope of preserving the limb, some part or appendage of it, was gone, committed a crime and should be held to severe account for his action.

I also maintained that in dealing with crushes of the foot or hand, Malgaigne's "keys" to the articulations and the whole category of classic amputations described by different authors should be totally disregarded, and that our guiding principle should be to spare and preserve under all circumstances in civil life.

It has been a source of great gratification to me to note that this position has received quite unanimous support from different sections of this country and abroad since; although we notice that the authors of modern text-books still persist in filling in with cuts of those antiquated, vicious amputations.

At the recent meeting of the New York State Association of Railway Surgeons one phase of this subject was submitted by Dr. Henry Flood, of Elmira, who dealt chiefly with disorganizations of the foot, and raised the simple question why we should regard the management of the pedal extremity on any other lines than we do the hand? Unhappily we are still in a large measure the servile imitators of antiquated customs, and simply follow wherever we are led without doing a little thinking on our own account.

In the discussion which followed Dr. Flood's paper, Prof. John A. Wyeth took an advanced position and a radical departure from the time-trodden path of immediate amputations, and declared that "the whole foot" should be regarded as "one bone," and that where we severed any

part of it after an accident, it was better to do so sparingly, for the reason that should it be found later enough bone had not been removed to be properly covered in, a harmless secondary operation could be done with ease and safety.

Anesthetics, antiseptics, and improved asepsis have wrought a revolution in the management of traumatisms, plastic and osteoplastic surgery, and modern mechanical devices have enabled us to preserve very much of mangled limbs which formerly had to be sacrificed.

What, then, should be our course of procedure when called on to attend a limb, a finger or toe shattered or mangled?

Our first aim will be to determine if the parts are irretrievably destroyed; are dead and beyond all hope of resuscitation.

How will we determine this grave problem? Only in one way, viz., when the mechanical violence has been so great as to totally destroy the parts; when the main nerve trunks and arteries are completely torn through and the parts are connected to the living only by tendons, fascia, integument or ligament. In other words, when a mechanical or traumatic amputation has been accomplished. But even this is not enough in crushes of the fingers or toes of children or youths. But how about those cases in which bone is shattered, and the soft parts are extensively mutilated—quite a considerable proportion? Are there not in these cases such evidences as will unerringly lead the experienced surgeon to recognize at a glance that vitality has departed, and he is enabled to decide where he must sever the tissues?

In all truth it must be answered that there are no such signs. The limb may be cold, numb, and pulseless, and yet survive.

How, then, will we decide on what shall be our line of action in these dubious cases? Time only will decide the question; but we must not carelessly bundle up the limb in dirt and rags and wait; we must give nature a helping hand.

IN THE INTERIM.—1. Secure the most complete suppression of all hemorrhage by closing all the open vessels.

2. Thoroughly cleanse.

3. Place limb in position of relaxation; and if finger or toe is crushed, replace parts.

4. Embalm the parts by sterilized elastic dressings.

5. Maintain artificial heat, not to the limb alone, but to the whole body until reaction is re-established.

It is of vital importance now that the patient be carefully looked after, as well as his limb.

He must be stimulated and the flagging forces of life supported. Here alcohol is the monarch of stimulants for narcotics in various forms and in graduated quantities.

Twenty-four to seventy-two hours are long enough to wait.

CONSECUTIVE THERAPY.—Having removed the dressings, we will now find, *first*, in diseased cases, dry mummification, with the line of demarcation formed; *second*, more or less gangrene, but the continuity of the circulation restored; the parts beyond have preserved their vitality; *third*, beyond a localized ulceration at point of injury, vitality is everywhere restored.

The above three degrees of damage, so destructive, suggest the proper therapy:

First.—Severance of bone and subcutaneous tissue above line of demarkation.

Second.—Various osteoplastic procedures, grafting, etc.

Third.—Practically the same treatment as for a compound comminuted fracture.

RESULTS.—By adopting this course we give the classic amputations, the showy, swift-slashing, "playing to the house" the go-by. The wound requires, perchance, months instead of weeks in healing, but we are rewarded by a *restitutio ad integram*; a limb or part of a limb has been spared.

ON FLAPS.—The shapely flap with the handsome amputation should both be consigned to the limbo of oblivion.

Nothing is calculated to do greater mischief in the life-work of the general practitioner than the impression left in his student days that he must shape his flaps after the same rule that a tailor would the segments of a garment. As student he was taught transfixed flaps, the bisected, the oval, the circular, the apron, the Teale, the Lispanc, etc., while the stern truths of practical surgery teach that in every instance our sole aim is to only provide ample covering over the projecting bone surfaces. Many a limb, or important appendage of it, or a joint, is prematurely sacrificed because at first sight it seemed impossible that enough integument or scar tissue could be forthcoming to cover it in. But it is most remarkable how in many of these cases the slack integument is gathered up and spread out over the nude osseous surfaces.

CONCLUSIONS.—Modern surgical science and art have so revolutionized the therapy of crushed members that the term "amputation" should be expunged from all text-books on surgery and its practice severely interdicted. The word implies severance *en bloc*—something never called for under these circumstances. The term excision or resection should be substituted for it.

Effective embalming of the shattered limb permits of safe delay and the preservation of every possible portion of tissue.

Reaction established, now in many cases the surgeon should turn to utilize the important auxiliary art of osteoplasty, disossement, ebonation, bone-grafting, tissue-sliding, etc.

The above very brief and inadequate notes on such an important subject apply to traumatisms chiefly, though they are not without a range of considerable limit in all pathological conditions of a non-malignant character.

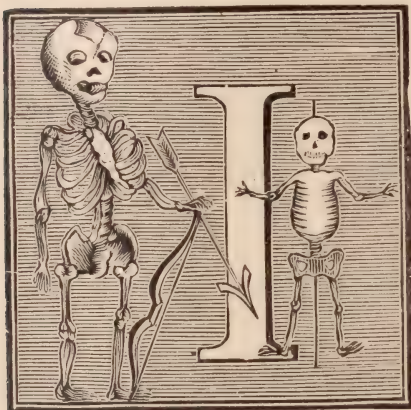
It is obvious in wars, in a pestilential country, they have no application at all under usual conditions, as in field hospitals near the line of action.

Callous Ulcers.—In the treatment of callous ulcers a blister applied over the thickened tissues around the ulcer is one of the most rapid methods by which the disappearance of the exuded materials can be brought about.—DR. C. W. CHEYNE.

TENT LIFE FOR INVALIDS IN COLORADO.

By CHARLES FOX GARDINER, M. D., Colorado Springs, Colorado,

President El Paso County Medical Society, Member American Climatological Association and of American Medical Association, Etc.



AM writing this letter in one of the mountain parks of Colorado, some 7500 feet above the sea level. My tent is pitched in a pine grove, in the open spaces of which the brilliant Colorado sunlight is pouring a flood of warm, golden light; and although the temperature is only 80° F. beside me in the shade, the air, for all that, is crisp and refreshing, the gentle breeze that reaches me occasionally being almost cool, with just a suspicion in it of having passed over the snowy range beyond, and of gathering pine balsam along the way. I have been wondering, as I sit here enjoying the restful, quiet

fresh air and the beautiful prospect, as I have often wondered before, many times, why it is that, as a class, pulmonary invalids so seldom utilize this out-of-door tent-life, so conducive, not only to physical health, but to mental rest as well. It seems to me all human experience and scientific research alike show us the utter worthlessness of all and every means of curing consumption without this great and all-powerful factor, fresh outdoor air. And apart from the careful and scientific use of outdoor air as used by many sanatoriums in Europe,¹ and in this country,² we have only to turn to the crushing evidence presented in its favor by many facts now known to us in the life history of men and animals. Pulmonary tuberculosis is almost exclusively a disease of the domestic animal, including man himself; and when animals are deprived of a certain amount of air and exercise, like our domestic cattle, then tuberculosis begins. And when man leaves the plow for the shuttle, when agriculture gives way to manufacture, with its accompanying bad air, crowding, and the like, then, and not till then, does consumption advance with giant strides to destroy those who are not the "fittest," or who do not breathe enough outdoor air.^{3, 4, 5.} Dr. Trudeau has⁶ demonstrated this in animals. Rabbits were made tubercular. Half the number were confined² half were practically turned loose. The rabbits that were confined died of tuberculosis, or were hopelessly diseased when killed, while those that lived their natural lives, unconfined, in the open air, recovered. The same influence regarding the development of consumption by confinement can be seen among our North American Indians. In a letter written by George F. Pope, agency physician, Greenwood, S. D., and published in an article by H. H. Spiers, October 1, 1898, in Cincinnati *Lancet-Clinic*, is the following⁷ (also¹):

"I have attended the Indians, both here among the Sioux and in Idaho among the Bannocks. I have known many agency physicians, and have talked with them. All agree that the older Indians say they did not have consumption among them when they lived in the teepees and in

the open air. But as civilization advanced among them, the government has constructed log cabins and small frame houses for them, and they have given up the teepee, except for a short time in the hottest weather in summer. Now we have consumption, the most prevalent disease. More than half the deaths are from it."

Many other facts could be cited as showing very clearly overwhelming proof that, both in men and animals, consumption or tuberculosis is a direct result of being deprived of air, and that a return to the semi-savage life of our ancestors, with its life in the open air, not only will prevent the development of consumption, but will also, in many cases, cure the disease when such a life or environment is utilized with judgment and care.

That such a remedy can be at once used in every case or in any climate, summer or winter, it is needless to say is impossible. A delicate invalid, especially one with impaired vitality from pulmonary disease, cannot, with any degree of safety, be taken from the enervating and often luxurious surroundings of a civilized home and placed suddenly amid the hardships and necessary exposures of life entirely in the open air; such treatment would often result in pneumonia. Nature's cures are severe, and have always to be used with at least the same caution that one would administer some powerful drug. Climate is a big factor in the use of open air cure. I do not say the climate of Colorado is the best and only climate for such treatment of pulmonary diseases, but I do say that there is strong evidence to show that the climatic conditions all over our dry, elevated plateau in Colorado, New Mexico and Arizona offer, some of them in winter, some in summer, advantages that very few countries possess in the whole world. The altitude or elevation above sea level, such as exists in these States, generally expands the chest,⁸ dilates the air cells of the lungs, thickens the blood, rendering it more active as a destroyer of germ life, while the sunshine, the purity of the air and sand soil, with almost entire absence of humidity, tend to favor nutrition to a high degree,⁹ and make it far more possible to live out-doors with comfort and safety than in less favored sections of the country, and even under more or less unfavorable conditions, such as living in ill-ventilated rooms part of the time, etc. The percentage of recovery from consumption in its first stages in Colorado is very high. That this curative agent in this climate is due to the air alone, or very nearly so, is quite evident; and that it is the open air, and not indoor air that cures, is also a well-established fact. And it follows, of course, that if the open air was wisely used and taken advantage of as it should be in this climate, the cases cured of consumption would be proportionately increased.

There is no doubt in my mind that the life of the average pulmonary invalid in western health resorts is not an ideal one, at least from a strictly scientific point of view, or a common-sense standpoint. The very comforts of civilization, the social life, warm rooms, late hours, dining out, and the thousand and one temptations that are so seductive to a homeless wanderer in search of health, are, if indulged in unwisely, too often destructive and not constructive, as such a method of life, after all, represents precisely the environment in which the disease first developed; and what invalids must have is a complete change, to stimulate cell nutrition to the utmost; habits, habitations, clothes, food, climate, and even

thoughts or mental labor, all need a stirring up and readjusting to fit the body for the new and healthy action that is to drive out disease. The intelligent patient coming to the West in search of health tries to avoid these perils of civilization, and by the advice of his physician, or upon his own judgment, seeks to obtain the all-powerful open air treatment by living on a ranch. The prevailing idea which seems to exist is that it is the beau ideal of an outdoor existence, with abundance of milk, eggs, and good beef to eat, open fire-places to sit by, and a broncho to ride over the rolling prairie, and with it all a spice of romance pervading everything to make interest and a quick return to rugged health as a final result. There may be ranches where this ideal perfection is a practical reality, but I, for one, do not know of them. I have been over Colorado and Wyoming on horseback, and at one time practiced medicine for several years (four or five) at a place some one hundred and fifty miles away from any railroad, in a cattle country, among ranches, and my experience has been that it is all a well man can do to digest the average ranch food, and that most ranches are no place for an invalid. The principal diet, as far as my rather extended observation goes, was that three times a day, year in and year out, the average menu was salt pork cooked in a sea of lard, soggy potatoes, baking powder biscuits, washed down with black, reboiled coffee, all taken with great haste and in absolute silence. Anything better or more varied was always a surprise to me; and it was, indeed, a noteworthy exception when at a ranch I had properly prepared meat or vegetables. No fresh air can at all compensate for malnutrition engendered by a faulty preparation of food, and the ranch-cured cases, with few exceptions, are, in my experience, cases of survivals of the fittest, who had most unusual digestive powers; and such cases represent but a small proportion of those that seek such a life for lung troubles. Then, ranches are built with but little regard for either the picturesque or sanitary surroundings, and are only too often so situated as to be in barren and desolate parts of the country, and unhealthy from defects in local drainage or soil, with all the trees cut off near by for wood, and the only alternative to sit out in a blinding sunshine or indoors with the ever-present flies. Such ranching, with its discomforts, soon produces in a sick "tenderfoot" dyspepsia and condensed homesickness, alike fatal to improvement. If an individual decides not to chance a ranch life, and to live in a town or city of Colorado, and is, we will say, sensible and determined to live to be cured, in accordance with general hygienic rules and good common sense, he will, if possible, select a quiet boarding-house, with some sunny piazza where he can spend most of the day. Such patients will, it is true, religiously spend what is indeed to them all day out-of-doors, but it is, after all, accomplished with some effort. They are conscious all the time of a duty in doing so, and probably restlessly count the hours when they can go indoors. The light hurts their eyes, they are tired, and if they lie down people look at them, etc.; and after all is said, how much time do such patients have absolutely in the open air? I think it is a fair statement to say, about on the average, six to six and one-half hours—really less than twenty-five per cent. of the twenty-four hours; and yet all their effort, travel and expense has been taken for open air, for that is the only cure, and they are paid twenty-five per cent. only out of the one hundred

per cent. The average person seems to think that practically there is very little difference between the air in an average room and out-of-doors, but the difference is a great one. I have made some regular scientific experiments in this direction,¹⁰ but a comparatively simple one can be made by any one. I have taken a piece of fresh meat, entirely uncovered, in hot weather, and suspending it on the top of a pole twenty feet high, have kept it fresh and pure for several weeks, while the other half of the meat, placed in a room with doors and windows open and protected by fly-screens, became tainted in a few hours. The analogy between this meat test and a lung which is impaired needs no emphasis, especially when it is remembered that in twenty-four hours some three hundred and fifty cubic feet of air is taken into the lungs. The outdoor air in Colorado has some subtle quality in tending to avert putrefactive changes that indoor air does not possess. To arrive at the practical point, however, is not easy.

It seems necessary to derive the best effects from the outdoor air cure to have the dosage as heroic as possible. If at all practical, day and night also should be utilized by the pulmonary invalid, but this must be done without undue exposure or overexertion, and with good food properly cooked to nourish him. Now, my plan is that a properly constructed tent fulfills these necessary conditions in an ideal way. I do not, however, advocate the tent in general use, at least in the West; such a tent-life as often advised is worse than useless. First, they are generally low "A" tents, made of thin duck, with no floor, pitched often in the open, without shade and with no adequate system of ventilation when closed at night. The consequence is that such a tent is hot in the sun, badly ventilated. When there is rain the thin duck, even with a fly, allows a mist to enter through the damp duck. Every footstep brings up a cloud of dust, even with rugs. A tent, such as I am about to describe, has to be properly built, properly pitched, and properly conducted, with attention to details, to insure success. The tent I advise is the result of considerable evolution in tent-building; and after having lived in it both in snow-storms and the heat of summer, I can state positively its practical uses. The tent is made of twelve-ounce duck (very thick duck, this is), eighteen feet high and quite circular; diameter sixteen feet on floor; center pole has pulleys worked from inside to regulate tension in damp weather. At the top is an opening ten inches in diameter for ventilation. The floor is in eight sections fitting together, around the edges of which the tent wall is fastened. The wall is five feet six inches high. In wet weather the great pitch, or inclination, of tent roof, and the thickness of the duck, with height from the floor, combines to prevent any dampness being felt, even in "driving" rain-storms, while the floor, some eight inches from the ground, allows perfect ventilation and dryness without ditching, if on a ground with slight natural drainage. A wood stove, with pipe passing through a tin shield in the wall, assures all the warmth necessary. I have frequently brought up the temperature from freezing to 75° F. in fifteen minutes by lighting a fire. Such a tent will not need an extra fly if pitched where there is some shade, preferably that of pine trees, not too close or dense. In warm weather a dark shade, made of blue duck, can be suspended outside to-

ward the sun, and, if necessary, the lower edge of wall can be raised two or more feet from platform all around. This, with the opening in the top, insures a constant interchange of air, the air tending to collect overhead being displaced by cooler air from below, and all warm air, smoke, etc., being carried out at the top of the tent, as I have proved by direct experiment. No matter how hot a fire or how closely the tent is closed below, there is a constant and gradual interchange of air far in excess of any room ventilation. In some hunting trips I have had in the tent sixteen men, all smoking, a big fire in the stove and one smoky lamp, yet even under such a severe test the air has been so rapidly exchanged as to be practically pure. I have my tent furnished with a comfortable bed, rugs, chairs, etc., so as to make it as nearly like a home as possible. The bed, in particular, should be warmly equipped with eiderdown quilts, extra thick mattress, etc. If this tent is pitched near a convenient and good food supply, which is entirely practical, all the requisites are present for the ideal open air life demanded by the pulmonary invalid. He is then under treatment all the time, day and night. If he feels tired he can go to bed or lie down and rest in seclusion, and yet the fresh air is constant. If he is cold, he can be in a temperature of 80° if desired; but it is fresh, warm air, antiseptic and pure, he is inhaling, and not warmed-over air, filled with furnace dust or gases to irritate the delicate lungs.¹²

This is not a theory with me. I have directly experimented for years, and have lived in the open air, and in Indian teepees, and in a tent such as I describe for months at a time; and there is no practical objection and many reasons why an invalid can be benefited by tent-life in a suitable climate. Naturally, all cases of consumption are not suitable ones; some are too ill, others have home ties, and many have to be brought to such a life with care and caution; but for very many young men in first stages of consumption it will prove a life-saver, if properly used and not abused. The tent-life is a complete change, mentally and physically. One has only to note the benefit conferred and physical changes induced by ordinary camping, even under unfavorable conditions of climate and food, as in the north woods. To the average civilized man such a trip means a gain in weight, and the general experience is that appetite is increased, nutrition is stimulated, "nerves" are rested, and that even in bad weather a cold is seldom contracted in spite of exposure that, during an indoor life, would be apt to produce one. The facts I wish to emphasize are that in a tent-life in Colorado or other States having similar climatic advantages, we have a curative force of great advantage, depending on fresh air. That such a life, in certain cases and under certain conditions, is by far the best one for the invalid to live, and is possible for him at least nine months in a year; that the main point in treating consumption to *cure* it is a constant supply or dose of outdoor air. We have in the last decade seen cures for consumption come and go, without number; scientific advance has been pushed actively, especially in the study of tuberculosis. Yet to-day we stand very much on the same ground in curing consumption as did the world before the Christian era; and open air to-day, as then, is the only real curative agent that has stood the test of time.¹³

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PERITONEAL ADHESIONS.

By BYRON ROBINSON, B. S., M. D., of Chicago,

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Professor of Gynecology and Abdominal Surgery in the Harvey
and Illinois Medical Colleges.



PERITONEAL adhesions produce one-third of all intestinal obstructions. In examining a subject with obstruction of the tractus intestinalis four factors should be considered, viz.: (a) Peritonitis. (b) Strangulated hernia. (c) Mesenteric gland disease. (d) Ulceration of the mucosa of the intestinal tract.

The ultimate end of the above four factors is peritoneal bands or adhesions which aid in obstruction of the digestive tract. Practically, there is the fibrous peritonitis, the fibrinous peritonitis, and the serous peritonitis.

In peritonitis a fibrous exudate appears on the surface of the endothelia wherever two surfaces come in contact; they adhere by means of this sticky exudate. The adhesions may be an isolated point or over extensive areas. Organization of the peritoneal exudates rapidly occur, forming blood and lymph vessels, nerves and connective tissue, all covered by endothelia. However, a very small portion of the exudate organizes; the majority becomes absorbed.

From numerous experiments on dogs I found nearly all the plastic exudate absorbed and chiefly fibrous bands remaining six weeks after the operation. Subsequent to six weeks after peritonitis many of the fibrous peritoneal bands gradually disappear at the points of greatest tension and least nourishment—i. e., in the middle. A year after peritonitis relatively few bands remain. In secondary laparotomies in the practice of Dr. Lucy Waite and my own, three to four weeks will almost clear out a pelvic or other peritoneal region when the offending organ is removed. The peritoneal bands are covered by endothelia. Motion of the abdominal viscera appear to influence their absorption chiefly. The more mobile viscera, as the enteron, have the least peritoneal bands.

During the progress of peritonitis the intestines are still from paralysis. Distention becomes a marked feature of the colon and enteron in peritonitis, and hence segments of the tractus intestinalis which, normally, are distant from each other are brought in contact and adhere, whence arises the peritoneal bands connecting odd and distant organs, as the sigmoid flexure to the stomach, the transverse colon to the ova ducts, or the uterus to the transverse colon. A single band of omentum may pass to a hernial orifice. As the viscera slowly return to their normal caliber and location the bands gradually form and elongate through peristalsis. Bands principally assume a membranous character; contraction and motion produces round ones. Peritoneal exudates on non-mobile viscera may produce contraction and much deformity—*e. g.*, colon, mesentery and spleen.

Any variety of peritonitis from which a patient recovers may lead to peritoneal bands, and is always a local peritonitis. All patients afflicted by general peritonitis die. Peritonitis saves life—infection kills. The peritoneum is a lymph sac, and its inflammatory processes are lymphangitis. The reason lymphangitis spreads so widely and rapidly in the peritoneum is because the lymph vessels in its walls are uninterrupted and continuous over large areas and not obstructed by any natural barrier. Tubercular peritonitis leads, finally, to death through the lymphatics, with vast remnants of peritoneal adhesions. Strangulated hernia is very apt to result in peritoneal bands, whether reduced by taxis or surgery. The peritonitis about the strangulated loop may lead to peritoneal adhesions which may produce kinking in the loop of the enteron and colon. The reduced loop may adhere to the abdominal wall, to the enteron or any viscera, and by traction produce obstruction. The peritoneal adhesions about the loop may lead to contraction and obstruction. Stricture may follow the reduced loop.

Mesenteric gland disease leads frequently to peritonitis. The consequent local peritonitis may afford attachment to Meckel's diverticulum, appendicæ epiploicæ, loops of enteron or sigmoid. It may cause acute bending in the enteron, shrinking of the mesenteron, or even an aperture in the mesenteron.

The results of peritonitis are peritoneal bands. (*a*) Peritoneal bands may cause intestinal obstruction by a segment of bowel becoming strangulated by a band or through aperture. (*b*) By isolated peritoneal adhesions. (*c*) By Meckel's diverticulum and fixed appendicæ epiploicæ, omental cords, and acute kinking of the enteron loops. (*d*) Peritoneal bands may fix viscera. (*e*) They check peristalsis. (*f*) They cause pain by checking visceral function. Much of the immediate and remote pain subsequent to laparotomy is due to peritonitis and resultant peritoneal adhesions.

The Allen-Hall Drug and Surgical Supply Company.—This firm has located at 710 Pine street, St. Louis, and is doing a wholesale business in drugs and chemicals, surgical instruments and appliances, hospital furniture, etc. The *physicians supply* feature of the business, as inaugurated by the genial Mr. Allen, will be continued. We advise our readers to favor this firm with their patronage.

DISLOCATION OF THE SPINE, WITH REPORT OF TWO CASES.¹

By J. HERBERT AUSTIN, M. D., M. R. C. S. (England), Kansas City, Mo.



OUR subject for this evening, "Fracture-Dislocation of the Spine," is one that especially interests the surgeon.

But, invariably in these cases, symptoms arise which make clinical pictures that are of the greatest value and interest to any earnest student, no matter to what field of work he may be giving his attention chiefly.

This, possibly, is the most fearful accident that can happen to a human being. The patient's condition after such an accident is truly a sad and distressing one, with the future anything other than bright and hopeful.

The histories of the two cases that it has been my fortune or misfortune to have had under my observation were, briefly, as follows:

CASE 1.—W. H. B. Injured March 11, 1898, while driving under an archway. Examination disclosed marked deformity over eleventh and twelfth dorsal vertebræ; paraplegia was complete; no blood in urine. Extension failed to relieve symptoms; bed-sores were very troublesome. Several weeks later, after removal to hospital, a laminectomy was done; patient regained sensation and motion partially. In about two weeks, however, a dysentery developed which could not be checked, or at least was not. About three weeks later patient died. There was extraordinary emaciation, but this was to be expected after the four months or more that the patient lingered after the accident.

The *post-mortem* revealed a healing operation wound and the cord firm and apparently normal to touch.

CASE 2.—J. S. G. On March 14, 1899, was struck by a street car. I was on the car and witnessed the fearful accident. Examination at patient's home revealed dislocation of left hip. This was reduced at once without anæsthetics. It was easy to reduce the dislocation, because the muscles of the limb were paralyzed. There were numerous scalp wounds.

The left knee was severely disintegrated internally. It could be moved in almost any direction easily, but the surface structures were not torn through.

There was slight deformity over eighth and ninth dorsal vertebræ; great pain in this locality constantly for days, then for a time there would be none; paraplegia was complete except one zone of hyperæsthesia high up, which later vanished. Blood was very abundant in the urine the first time it was withdrawn. In about ten days pus appeared and was present to end of the case.

¹ Read before the St. Louis Academy of Medical and Surgical Sciences, April, 1899.

On account of great swelling and tenderness in left renal region, blood in urine, etc., we believed the left kidney was ruptured.

Patient lingered along for twenty-six days and died April 8, 1899. For ten days or more before death the temperature ranged between 101° and 104° constantly; respiration between 30 and 45; pulse varied between 110 and 160. Had pneumonia in right lung for last ten days; involved almost entire lung.

Patient had fæcal incontinence; developed a mild diarrhœa during last two weeks. No *post-mortem* was permitted. Only one rather small bed-sore developed during the case.

In considering the causes of such accidents we find that they may result from either direct or indirect violence. When due to direct violence the spine is bent backwards. This tears apart structures forming the anterior part of the spinal column, and crushes together those forming the posterior portion.

In cases due to indirect violence, such as a great weight falling on the head or shoulders, or the head being caught while passing under an arch, the opposite state of tearing and crushing will exist.

According to Treves, in over seventy per cent. of such accidents to the spine we have to deal with fracture-dislocation. The remaining thirty per cent. he claims is nearly equally divided between pure fracture and pure dislocation.

What concerns us chiefly, however, is the condition of the spinal cord after the accident. The symptoms are both local and general or constitutional, and vary according to the site of the lesion in the back. Locally, we usually have severe pain, especially on pressure or attempt at movement. We may have crepitus.

From blood extravasation there is often great tenderness and swelling. In some cases there is great deformity present, in others practically none exists. This is especially true of such injuries in the dorsal region of the spine.

General symptoms depend entirely on the condition of the spinal cord. If it is intact, there are none. In considering the general symptoms the spinal column is usually divided into five separate regions. The summit of the spine includes first three cervical vertebræ.

Fracture-dislocation with crushing of the cord in this region is invariably instantly fatal, for the reason that it is above the origin—the phrenic nerves. In cases where displacement and, therefore, bony pressure on cord is slight, we have complete paralysis below the cervical lesion and rapidly increasing dyspnœa and asphyxiation. In other cases where pressure is due to hemorrhage, the paralysis is often incomplete; and a symmetrical myelitis occurs later, if patient lives long enough for it to develop.

There may or may not be spinal meningitis. The cervico-dorsal region extends from the third cervical to second dorsal vertebræ. Often there is not much displacement of the parts. The cord, however, is usually completely destroyed, and all the body below the lesion completely paralyzed. If above second dorsal vertebra, the upper extremity is included. If higher still, there is often a severe hiccup and vomiting. Through the sympathetic the pupil may be dilated and vision affected.

Sensation is retained on front of chest in integument as low as the nipple, because the sternal and clavicular branches of the superficial cervical plexus are distributed there. There is true fæcal and urinary incontinence. The chief danger to the patient is failure of the respiration. It is quite true that the phrenics are intact and that the diaphragm is, therefore, acting normally.

The external respiratory nerve of Bell, which arises just below the phrenic, keeps the *senatus magnus* acting. This is an inspiratory muscle. It is because of these nerves, the phrenic and nerve of Bell, that respiration is carried on at all. The intercostal and abdominal muscles are paralyzed, therefore there is little expelling power during expiration. As a result, mucus accumulates readily, is not expectorated, and the blood becomes poorly oxygenated.

The dorsal region extends from the second to the tenth dorsal vertebræ. After an accident in this region there is paralysis of the thorax below the lesion; also of the abdominal walls and lower extremities. Inspiration is accomplished with force, because the upper intercostals act; but expiration is poorly carried out. Bed-sores form early, and are very hard, indeed, to care for. Priapism occurs if lesion is above sixth dorsal. Fæcal incontinence and dribbling away of urine is seen.

The dorsi-lumbar region includes the last two dorsal and first two lumbar vertebræ. In this region the spinal cord is surrounded by the tough, strong roots and cords of the *cauda equina*. These structures protect the cord proper against injury. In many instances the cord is only slightly injured and the paraplegia is only partial. Loss of motor power follows, but sensation is retained. Whenever sensation is lost there is invariably loss of motor power also.

By the lumbar region is meant the region below the second lumbar vertebra. A lesion in this region is below the spinal cord proper, and involves merely the *cauda equina*. Paraplegia is often absent. The patient may not be able to keep his body erect or walk, or at best very lamely, in a badly bent position.

But that same patient, lying on his back, may be able to move his lower limbs naturally, and also have normal sensation.

Of course, if the spine is fractured in the lumbar region so that the fragments are separated widely and the *cauda equina* torn from the cord, then instant and permanent paraplegia will ensue.

Now let us consider the prognosis of fracture-dislocation of the spine. It is truly a fearful injury. The great majority of cases end fatally—it may be instantly, after a few hours, days, weeks or, more rarely, weary months. The older the patient is, the less is the chance of life. Above phrenic, if the cord is divided, death occurs instantly—usually in a few hours in any case.

In the cervico-dorsal region ascending inflammatory changes often prove fatal in from a week to ten days.

In the dorsal region death occurs in most cases in from two to four weeks. As causes may be given acute bed-sores, cystitis, and diseased kidneys.

The most hopeful cases are those involving the dorsi-lumbar and lumbar regions, especially the latter.

These patients often recover entirely, except whatever deformity may be left. Even in these cases, if recovery or very marked improvement has not occurred in six months, little may be expected. Of course, cases are on record where patients lived wearily for some years.

Now we may consider the management or treatment of fracture-dislocation of the spine.

Immediately after the accident the patient must be handled very gently. Have him lifted on a board or shutter, and in every way try to prevent movement at site of lesion, and so protect the cord from further injury.

Fight collapse by heat and stimulants. Use sand-bags to steady head if fracture involves cervical region. Get patient to bed quietly and comfortably, as speedily as possible. Use a water-bed, if at all possible; it is by far the best. A fracture-bed makes a good substitute; or air cushions answer fairly in the absence of either of the foregoing. If only partial paralysis exists, attempts to reduce the deformity should at once be made, by extension and manipulation. Great care must be exercised, however. Avoid anæsthetics, if possible. Great care must be taken to draw off the urine three or four times daily, and oftener, if necessary. Wash out the bladder with an antiseptic solution if cystitis occurs. Have a bed-pan to receive discharges from the bowel, and in every way try and prevent urine or fecal matter from coming in contact with the patient's back.

This will go a long way, indeed, toward preventing bed-sores.

The skin should be gently bathed with alcohol to gradually harden it, so as to resist pressure. A very useful measure is to repeatedly paint the parts with collodion.

Other symptoms must be treated as they may arise, every case being a law unto itself.

If reasonable union has occurred, later on, in some cases, a leather or plaster of Paris jacket does great good. Now let us consider the question of operation—laminectomy. We must all agree that this operation is, at best, a very grave and serious one—one that shocks the patient severely in any case. The object is to relieve pressure on the cord by elevating or removing any fragment or spicula of bone that may be causing pressure on the cord. There is no use operating where internal organs are ruptured, or in a case where, from the severe deformity and profound instantaneous, continuous paraplegia, it is evident that the cord has been divided. I do not consider it good surgery to attempt to suture the cord or cauda equina when severed.

In the cervical region, life can be saved only by prompt reduction of the dislocation. Laminectomy, therefore, is indicated in this region at once if reduction cannot be accomplished without. I have seen brilliant results follow operation in this region. Laminectomy elsewhere, as a rule, does not accomplish much. There are several reasons why this is the case. One is that by operating a simple has been turned into a compound fracture. The column is often severely weakened by the removal of the posterior portions of the vertebræ.

Often on removing the laminæ, we find that parts of the bodies of vertebræ must be removed in order to relieve pressure. This has been done but rarely, and I know of no case cured by it.

Laminectomy sounds very pretty, and seems the correct thing to do, theoretically. But in many cases, practically, the operation is not indicated. Every case is a law unto itself, and we must govern ourselves accordingly.

HISTORICAL SKETCH.

SCHOLASTICS AND MYSTICS.

THE thirteenth century was one of the great periods in human history. It has been spoken of as "the trumpet call which summoned the middle ages into the modern world." Important changes took place in theology, philosophy and science. The impulse to advancement in science came largely from the Arabs, and especially from the study of the writings of Aristotle. It was a period of "wonderful" doctors. Through all the ages there have been individuals who either have claimed to possess, or to whom there has been attributed, a miraculous power over disease. Probably at no time in history were there more exaggerated instances of this belief than during the middle ages.

ALBERTUS MAGNUS, 1193-1280.

Albertus Magnus was one of those fortunate individuals who won the encomiums of both physicians and theologians. He was neither more or



Albertus Magnus.

less learned than the schoolmen of his day. At a time when Peter the Lombard described the earth as a square table and the heavens as a solid

dome, Albertus Magnus discussed with great zeal the question whether Eve was made out of a whole rib or only from the bony portion. Albertus wrote voluminously, if not intelligently, upon chemistry, botany, physiology, astronomy, magnetism, astrology and kindred topics. A treatise, *De Secretis Mulierum*, which bears his name, is said to have been written by one of his pupils.

**Libri secretorum Alberti magni de virtutibus herbarum: et alii
malium quorundam. Eiusdemque liber de mirabilibus mundi:
etiam de quibusdam effectibus causatis a quibusdam anima-
libus &c.**



Title-page of "*De Secretis Mulierum*" of Albertus Magnus, 1503.

ARNOLD OF VILLANOVA, 1235-1312.

Many cities have claimed to be the birthplace of Arnold. Having abandoned theology, he studied medicine in Montpellier. He traveled extensively and toward the close of the thirteenth century was a teacher at

Barcelona. He was an alchemist who sought not so much for gold as for the elixir of life. In his medical practice he adopted the chemical discoveries of the Arabs, and added them to the dietetic and hygienic rules of the Salernian school. Many of his aphorisms are worthy of record. "The modest and wise physician will never hasten to pharmacy unless compelled by necessity," said Arnold. The most valuable medical compendium of the age, *Breviarium Practicæ*, has been ascribed to him.

ROGER BACON, 1214-1298.

Roger Bacon was an Englishman, and was born near Ilchester. He was one of the most remarkable men of his time. Educated in Oxford and



Roger Bacon.

Paris, he devoted his talents, time and fortune to searching after truth. He delved into many fields, and believed in many things which were long ago relegated to the land of myth. He has been called the first inductive philosopher. His *Opus Magnum* opens with truisms which must be regarded as powerful protests against the authority of the time: "There are four impediments to knowledge: *first*, too great dependence upon authority; *second*, allowing too great weight to custom; *third*, the fear of offending the vulgar; *fourth*, the affectation of concealing ignorance by a display of a specious appearance of knowledge." He wrote on optics and the-

ology, magic and astronomy, chemistry and alchemy, and many other subjects. He investigated the tides, described the shape of the earth as spherical, compounded explosive mixtures, and wrote concerning the philosopher's stone. This he describes as "that medicine which taketh away all the impurities and corruption of a baser metal, so as to make it into purest silver and gold; and is thought by wise men to be able wholly to remove the corruptions of the human body, so as to prolong life for many ages."

Bacon found the error of the Julian calendar, which was corrected three centuries later by Gregory XIII., and called attention to the value of experimental research. While there is no doubt that many discoveries and inventions have been erroneously attributed to him, it cannot be questioned that he was one of the world's greatest men.

RAYMOND LULLY, 1235-1315.

Lully is best known as an alchemist. Like all the physicians of the time, he was a monk. Fabulous stories have been told of his accomplishments. He wrote numerous medical works, the most important being *De Pulsibus et Urinis*, *De Medicina*, *De Aquis et Oleis*. He met a tragic end, being stoned to death by the people of Tunis. Like all great minds of the middle ages, he was regarded as a sorcerer. Doubtless his alchemistic knowledge came from Arabic sources.

[TO BE CONCLUDED.]

Rachitis.—

℞ Spirit of phosphorus	℥ iij ³ / ₄
Oil of star anise	℥ xvi
Glycerine	℥ ix
Aromatic elixir.....	q. s. ad. ℥ xvj

Each fluid drachm contains one-fiftieth of a grain of phosphorus. This is the elixir of phosphorus devised by Dr. Charles Rice, head of the drug department of Bellevue Hospital, New York City. Children one year old can take 1-100 of a grain of phosphorus three times a day with no bad results, and in older children one-fiftieth of a grain can be given with great benefit.—DR. REGINALD H. SAYRE.

Acute Tonsilitis in Children.—

℞ Tinct. aconiti	m viij
Liq. ammonii citratis.....	℥ ij
Syr. aurantii.....	℥ jss
Aq. dest.....	q. s. ad. ℥ ij
M. Sig.—Teaspoonful every three hours for a child of five years.	

—DOCTOR ASHBY.

NEW YORK LETTER.

The New York Academy of Medicine.—Under the presidency of Dr. William H. Thomson, a greater interest seems to be taken in the scientific programme of the regular meetings, and, as a consequence, a far larger attendance is noted, sometimes taxing to the utmost the seating capacity of Hosack Hall. Discussion on the more common diseases is the order of each meeting. Syphilis was discussed as follows: "The Treatment of Syphilis in Its Early Stages," by Dr. L. Bolton Bangs; "The Treatment of Secondary Syphilis," by Dr. Robert W. Taylor; "Differential Diagnosis of Syphilis Eruptions, and Signs in the Skin of Former Eruptions," by Dr. George H. Fox; "The Stigmata of Syphilis in Children," by Dr. R. H. M. Dawbarn; "Syphilitic Affections of the Heart," by Dr. Leonard Weber; "Syphilitic Affections of the Liver in Adults and Children," by Dr. J. George Adami, of McGill University, Montreal; "Syphilis in Relation to Obstetrics," by Dr. Egbert H. Grandin; "Some Surgical Aspects of Syphilis," by Dr. Frank Hartley; "Syphilitic Insanities and Pseudo-Insanities, with Some Remarks on Prognosis and Treatment, and the Prognosis and Treatment of Syphilis of the Nervous System in General," by Dr. C. K. Mills, of Philadelphia; "The General Diagnosis of Brain and Spinal Cord Syphilis," by Dr. B. Sachs; "Syphilis of the Respiratory Passages," by Dr. Franke Bosworth. Your correspondent, in giving the titles of papers read, hopes that it may serve to stimulate presidents in western societies to emulate the example set by Dr. Thomson. The topic now under discussion is "Malaria."

Spices and Quinine.—Dr. William H. Thomson, in a discussion on "Some of the Less Common Effects of Malaria, with Remarks upon the Treatment of Chronic Infection," stated that he always preceded a course of treatment of malaria by a mercurial laxative; that quinine should be administered in three doses, one hour apart, so that the last dose should be given about one hour before the chill. The action of this drug was promoted by spices, and so, by giving ginger with the quinine, he could give less amount of the drug. Ginger alone has been known to break up the fever. He referred to the effects of paregoric in malaria, which had been published some time ago. It might be interesting here to note the words of Dr. A. Jacobi, before the American Climatological Association, last August, when he referred to the action of ergot in chronic malaria. There were cases of chronic malaria (intermittent fever) with tumefaction of the spleen that, after having resisted the action of quinine, arsenic, methylene-blue, eucalyptus, and piperin, were benefited by ergot. When enlargement of the spleen was not old and firmly established, the contracting effects of ergot were noticed within a reasonable time. The attacks would disappear before the diminution in the size of the spleen was very marked. An experience of over forty years justified him in stating that there were many cases of apparently intractable chronic malaria that would get well under the use of ergot.

Consumptives' Hospital.—The report of the special senate committee appointed to investigate the advisability of establishing a State hospital for consumptives in the Adirondacks has been submitted to the senate. The committee recommends that this hospital shall be established, and the sum of \$200,000.00 be appropriated for the erecting and equipment of these buildings. The following is deduced from the report: "A disease which carries off by death over 13,000 of the citizens of this State each year, and which involves before death the loss of the services of those afflicted with it from one to eight years, should certainly receive the serious attention of statesmen as well as philanthropists. From the standpoint of political economy alone the financial loss to the State each year is enormous, as will be shown by reliable statistics. If half of the more than 13,000 annual deaths from tuberculosis in this State can be saved, it means a saving of nearly \$7,000,000.00."

The Regent's Examination.—We learn that 123 candidates were examined during January last for license to practice medicine in New York State, of whom 94 were successful. During the year 1898, 869 candidates appeared for the State Medical Board, and the total rejections were 217, or 24.97 per cent.

The New York City Medical Association has recently been incorporated, consisting of members residing in the various boroughs of the city.

The New York County Medical Association now meets at the Academy of Medicine, where greater facilities for carrying on its scientific work exists. Under the presidency of Dr. Wiggin better programmes are presented.

Suit Against the New York University.—The Medical College Laboratory of the City of New York has brought suit against the university for the medical school proper. The value of the property involved is about \$200,000.00. Because of alleged violation of the agreement on which the university obtained the property from the school, in that the university assumed control of the school and the appointment of its professors and tutors, the reconveyance is asked.

Malpractice Suit.—Dr. Thomas H. Manley had been sued by a woman for the maltreatment of a thumb (*N. Y. Press*, April 12th), and there being no defense, \$2,000.00 was the sum ordered in verdict. The courts have ordered the judgment nullified and directed another trial.

The Medical and Legal Relief Society of New York City was incorporated recently in Albany. The objects are to provide medical and legal relief for the poor and helpless, and to be a communication between the various hospitals and dispensaries of the city, and to give legal aid to all who are unable to employ counsel, and who have been unjustly treated.

Professional Secrecy.—Governor Roosevelt has signed an amendment to the civil code, which forbids a physician to give any information con-

cerning the mental or physical condition of his patients, either before or after his death. Hitherto the law has permitted a physician to testify concerning the physical condition of a person holding a policy of life insurance.

Pneumonia Antitoxin.—In the laboratories of the New York Board of Health, extensive experiments have been carried on during the past year, looking for the production of a serum that will have a curative action on pneumonia. These experiments are as yet incomplete, but are sufficiently promising to justify their continuance, and to give the hope that some definite results may be obtained.

Rabies.—During the year fifteen persons bitten by supposedly rabid dogs have received preventive inoculations after the Pasteur method from a physician of the New York Board of Health.

Six-Day Races.—Governor Roosevelt has signed a bill preventing these races. It provides that "in a bicycle race, or other contest of skill, speed, or endurance, wherein one or more persons shall be a contestant or contestants, it shall be unlawful for any contestant to continue in such race or contest for a longer time than twelve hours during any twenty-four hours."

The Seventh Regiment, N. G. S. N. Y.—A well-deserved testimonial has lately been given to Dr. Daniel M. Stimson on his completion of twenty years' service. It took the form of a gold medal, and was intended to be a token of esteem in which the doctor is held, not only as a surgeon and an officer, but also as a man.

Morgan Gives a Million Dollars.—Before J. Pierpont Morgan sailed for Europe on April 5th he announced to the trustees of the Society of the Lying-in Hospital that he was satisfied with the conditions on which he offered them \$1,000,000.00 with which to build a new hospital building, and that the money was at their disposal whenever they wished to take possession of it.

E. FRANKLIN SMITH, M. D.

Counter-Irritants.—The forms of counter-irritants now most usually employed are—in order of efficiency—the actual cautery, blisters, and iodine. In former times other methods were used, such as tartar emetic ointment or croton oil (applied to the skin), the employment of the seton or of the-moxa; but nowadays these forms of counter-irritation are for the most part discarded, and reliance is placed on the three to which I have referred. Of these, the least efficacious is iodine, which, indeed, unless in superficial inflammations, does not as a rule seem to exercise any action. It is a substance which is very commonly employed in chronically enlarged glands in the neck; but, beyond diverting the attention of the patient and his friends, it does not seem to possess any real salutary effect.—DR. W. WATSON CHEYNE (*Treves' System of Surgery, Vol. I., page 74*).

LONDON LETTER.

The Plague in India.—Perhaps I may best assume the duties of your London correspondent by summarizing what is known regarding the labors of the commissioners who have been appointed by the government of this country to investigate into the nature, causes and remedies of the Indian plague. The commissioners have traveled over almost every district of India and have taken evidence from all classes of individuals who have had any plague experience in India. The views expressed by the various persons examined are, as was to be expected, very diverse, and the suggestions are equally varied. Evidence of the various inoculation methods which have been laid before the commission seems to deserve a considerable amount of attention. The medical officer in charge of the inoculations of Baroda, for instance, stated that among 513 persons inoculated at Undera there were three deaths, while of 437 persons uninoculated twenty-six died. At Katlee, among 1159 persons inoculated there were nine deaths, and among 2162 uninoculated, 110 deaths. In some cases evil effects followed, but it was doubtful whether they were due to inoculation. At Surat the evidence showed that 18,000 persons in the district were infected in December, 1896. The disease was imported from Bombay. There were 2522 admissions into the hospitals and 1726 deaths. One hundred and twenty-one persons were inoculated, none of whom were attacked. There seems to be an idea that Haffkine's fluid was valuable apart from its prophylactic properties, because it gave the people a sense of security. At Bombay Dr. Mayrs, of the Austrian mission, gave evidence before the plague commissioners and described the treatment of cases by Lustig's curative serum. In two instances, where the blood of the patient on microscopical examination showed a considerable number of plague microbes, three injections resulted in the disappearance of the symptoms and the recovery of the patients. Dr. Ismail Mahomed, member of the municipal corporation, suggested that the disease might have been brought from Hong-Kong by ships carrying fomites or dead rats in their cargo. Dead rats were found before the plague broke out at Mandvi, where Chinese goods were stored. Mr. Lund, merchant, who was on voluntary plague duty in the Mazagon and Tarwadi districts, stated that among 7000 persons inoculated there was only one death from plague.

The methods which have been recommended to the commission for staying the growth of the plague includes the results of experiments made by Dr. Sulemani, chief medical officer at Baroda, showing that nitric peroxide was the best disinfectant, as it destroyed both the smell and infusoria of the sewage, and that the percentage of attacks in houses thus disinfected was less than when perchloride of mercury was used. It was suggested that human agency was necessary for the importation of the disease, and that the importation of grain might be a suspicious factor. At Bombay it seems that the European supervision generally overcame the plague, and Major Roughton, Bombay Volunteer Artillery, recommended the adoption of the system employed in London during the plague of 1665, as related by Defoe—of locking up the houses and confining the

inhabitants inside, unless the natives underwent segregation. In his view, overcrowding, subsoil water, bad drainage, would keep the plague permanently in Bombay. In certain districts, as at Satara, the people refused to be inoculated, and it was observed that among those living in the open air and among Europeans there were no cases of plague. At Nasik the commissioners were informed that out of a population of 25,000, five hundred cases had occurred in the first epidemic and two hundred in the second. At Jalgaon the removal of the inhabitants from their homes prevented the disease from spreading. Nasik was probably infected from Igatpuri by human agency. The epidemic was worst in the cold weather, but the ward system proved satisfactory. At Bombay Dr. Cayley gave the results of his examination of the sputum in cases of primary and secondary plague pneumonia. He found that the bacillus was present in early stages of primary plague pneumonia; the sputum contained practically pure cultures of plague bacilli. In cases of secondary pneumonia the sputum was examined microscopically. In the majority of cases it apparently contained plague bacilli, but he had been only able to isolate the bacilli in seventeen cases out of forty-three. The bacilli were not found in the perspiration or the scrapings of the surface of the skin. Dr. Crimmin, port health officer of Bombay, said that the total number of vessels arriving and leaving the port which were subject to inspection was 162,064, carrying a total of 2,870,454 crew and passengers. Out of that number 374 cases of plague had been found. The period of incubation was from three to five days. During the present epidemic, which began in December last, as far as could be ascertained, no case of plague left Bombay for any port out of India. Dr. Haffkine stated that, though his prophylactic was generally sterile, it was impossible to avoid occasional impurities, owing to the stress of work, but the danger arising therefrom was insignificant. The general low mortality among inoculated people was due to the fact that the inoculation of pathogenic microbes influenced the course of disease by other infections as well as plague.

The Plague Commission terminated their visit to India with the evidence taken at Bombay, and left that port in the *Arabia* for London, where they will continue to take further evidence; and it is expected that their report on this question will be published by the month of August. Its value will be greatly enhanced, not only from the vast amount of statistical and other information which it will afford, but from the value that must certainly be attached to the pronouncements of men so eminent in their respective professional spheres as Sir Thomas Fraser, of Edinburgh; Dr. Armand Ruffer, head of the Sanitary Department of Egypt, and Dr. Wright, pathologist of Netley Hospital.

The condition of Bombay at the present time shows that the plague is on the decline there. Five weeks ago the populace was dying at the rate of three hundred and fifty a day. Now that the hot weather has set in the plague is retreating, and the mortality has fallen to one hundred and ninety-three, of which cases probably about one hundred were plague cases. The bulk of the natives no longer seem to fear the plague; familiarity with it for three years has taken away its terrors, and the action of the government has tranquillized their minds. The plague still continues throughout the Bombay Presidency. The Punjab is not very seriously

affected. The Madras Presidency remains comparatively healthy, the climate and soil of that district being regarded as unfavorable to the plague. An improvement is also reported in the Nizam's dominions. In Bengal the plague reappeared in the middle of February. In Calcutta by the end of March the death-rate there had risen to two hundred weekly; but here, also, as the heat increases the plague mortality decreases. Strong comment has been roused by the action of the Bengal government in recommending plague officers to offer no encouragement to those wishing to be inoculated. The Bombay government has similarly been condemned for its lukewarmness on this matter. In the town of Hugli 33,000 persons were inoculated with the Haffkine fluid; 6000 remained uninoculated; in one week three hundred and seventy-one deaths occurred among the 6000 uninoculated persons, and only forty-one among the 33,000 who had been inoculated with the Haffkine fluid.

The Death of Sir John Struthers.—The hand of death has withdrawn from the medical world three of its most outstanding and renowned figures—two Scotch professors, and Sir William Roberts, who practiced in London, but who was of Welsh extraction. Scotland has lost Sir John Struthers, the world-renowned anatomist, who for many years was professor of anatomy in Aberdeen University; where, indeed, he may be said to have constructed the anatomical buildings and the plan of instruction, and provided, largely at his own expense and more largely as the result of his anatomical skill, the important museum attached to that institution. For many years Sir John Struthers was one of the most important members of the General Medical Council of Education and Registration of Great Britain and Ireland. It was to him that the council deputed the onerous task of reconstructing the educational scheme for the preliminary examination of medical students in this country.

To his persevering, persistent efforts, this country may be said to owe the five years' medical curriculum. Sir John Struthers was a manager of the Royal Infirmary of Edinburgh, and took an active interest in everything connected with the welfare and progress of that magnificent institution, but his soul was, most of all, engaged and entranced with the welfare of the Royal College of Surgeons of Edinburgh, an institution to which in his student days he had owed a considerable amount of his subsequent success in life. He always spoke gratefully of the college and never missed an opportunity of adding to its scientific riches and usefulness, whether by adding specimens or by rearranging and classifying those representing the work of the famous surgeons and anatomists of the past already there. Struthers had acted as the *locum tenens* of Goodsir, the professor of anatomy in Edinburgh after the last Monroe.

In his later life Goodsir was afflicted with locomotor ataxia, became irritable and allowed his teaching to fall considerably behind. Sir John Struthers was wont to relate that on one occasion Dr. Knox, the brilliant anatomist, who failed through Edinburgh prejudice, went to one of Goodsir's lectures at the Royal College of Surgeons, but fell asleep during its delivery. Goodsir's illness began in 1853, and was first noticed when he was about to read a paper at the Medical Chirurgical Society of Edinburgh, Professor Syme occupying the chair. Goodsir was a tall, gaunt

man, and when he stood up to deliver his paper he remained silent, looking around him, and all saw that he was not well. He sat down heavily, and in a few minutes rose and staggered out of the room like a drunken man. He went abroad to Nice, having made no arrangements and without announcing what he was going to do. When asked what the university was going to do in his absence he replied "they could do as they liked." It was then that Dr. Struthers was asked by Professor Syme whether he would undertake the duties of the chair at the Edinburgh University. The classes numbered at this time 450 pupils. Perhaps Dr. Struthers' views on some subjects of past medical history of Scotland may give your readers some indication of how science in that country had to contend with religious bigotry and experience, and of the efforts which were required to effect reform in the great Scotch universities. Formerly, all the fees and property were managed by professors, but by the act of 1889 Dr. Struthers got the government to change that and remit it to the governing body—the university court. "The professor," he said, "should stick to teaching of science and research and not to managing university funds and property." Dr. Struthers was often at the home office managing these things for Aberdeen University. Lord Lothian was then home secretary for Scotland, and on one occasion he showed Dr. Struthers the bill proposing to continue the management of the funds and property by the *Senatus Academicus*. Struthers added a correction "shall be transferred to university court," and the bill came out with this addition, to the surprise of his colleagues. So that now the governing body of the university, and not the professors, manage the funds and property of these institutions. Struthers was asked to go on the University Commission, but his brother's illness prevented him from accepting the invitation. He gave evidence before it, however, and urged that professors should be paid by salary and not by students' fees. This was before the Commission of Enquiry, 1876. His reasons were that it had become a scandal for medical students to attend the lectures of those professors who were also to be their examiners. This made the student return again and again saying, "I will take him out a second time and that will get me through my examination." Struthers' contention was that professors should either drop their examination functions or their fee-taking functions. As a result of Dr. Struthers' work the professors' salaries are now fixed in Scotland. All existing men are guaranteed. The income of future professors may rise or fall with the prosperity of the university, so that they still retain a general interest in the welfare of their university, but no longer have any interest in getting a man to reattend their own particular lectures.

During Dr. Struthers' professoriate in Aberdeen the attendance ran up to triple its original number, simply because it was always his aim constantly to adapt the school to the needs of the times. Glasgow increased largely, but not in the same proportion. Half of the students at Edinburgh were English or colonial and the other half Scotch. In Aberdeen a third of the students were English or colonial, two-thirds Scotch. On the present condition of the medical school, Dr. Struthers expressed the view that they had more students than they could teach "*practically*." When he left they had 450, at present only 150 attend. It always ap-

peared to Dr. Struthers that the medical journals in London were fond of ringing the changes on the falling off of the Scotch medical schools, forgetting, as he pointed out, that diminution in numbers meant increase in the teaching strength and increase in the quality of the students.

Sir John was a man of war always embroiled in some reform. He was not, indeed, a Napoleon wiping off obstacles with a brilliant blow, and calling all men to his banner. His victories were gained in single combat with his back to the rock and his face to the foe. When once he took up a position, he never left it until his purposes had been achieved, and these purposes had the double honor, that while following them with eagerness and persistence, his actions, so far as he personally was concerned, were entirely disinterested, and his life was passed in complete devotion to the interests of scientific research, especially in the field of medical science, which he loved so much. A career like that of Sir John Struthers, so full of interest and variety, could well afford to be described at greater length, and, doubtless, this is specially felt by one who, like your correspondent, was taught by him, examined by him, and who had shared his friendship and his hospitality for many years.

The Death of Professor Rutherford, of Edinburgh.—Another Scotch professor who has passed away was the world-renowned physiologist, Professor Rutherford, whose great abilities, wonderful scientific acumen and researches, especially connected with the circulation of the blood and the hepatic secretion, gave him a world-wide eminence. His career in Edinburgh was rather marred by the ill-usage conferred upon him by some of the younger school of physiologists, including Stockman and young Paton, who thought to set the heather on fire by their burning physiologic zeal, and could not refrain from throwing their juvenile and somewhat crude efforts into the fray against Professor Rutherford. This was all the more shameful, as it was well known that for some years Professor Rutherford had been suffering from a form of illness which manifested itself in peculiar notions, which rather disturbed those with whom he had to deal personally as his assistants. Whatever was Professor Rutherford's position as an original experimentalist, his influence in that direction was but slight compared with his skill as a teacher.

An account of the life-work of Sir William Roberts and its bearing on modern medicine may, I think, be left for my next communication.

London, England.

W. L. BROWN, L. R. C. P.

Nirvanin.—Luschenburger (*Münch. med. Woch.*, No. 2, 1899) describes a new local anesthetic, which is said to have many advantages over cocain. As it is only one-tenth as poisonous as cocain, large amounts can be injected. Ninety-four operations are tabulated in which nirvanin was used as a local anesthetic, and in no case were there unpleasant symptoms. The author claims that under its influence the radical cure for hernia can be performed, the amputation of fingers and toes, and the removal of necrosed bone, etc. A two per cent. solution with sterilized saline fluid is recommended.

MEDICAL NOTES.

The German expedition for the study of malaria, composed of Koch, Pfeiffer, and Kossel, has made a report of its results. A total of one hundred and twenty malarial patients were examined. It was found that the estivo-autumnal fever, despite the variability of its clinical types, was a distinct species, having its special form of parasite. Estivo-autumnal fever is a tertian fever, and is the same as the malaria of the tropics. The commission was able to demonstrate the presence of chromatin granules in the crescents, and even in the flagella; and it looks upon the latter, not as flagella, but as spermatozoa. No advance was made in the study of the cycle of development of the plasmodium, but the commission found in birds a parasite similar to that of man, on which experimental studies are possible. This parasite is the proteosoma which Ross has studied in India. Interesting investigations were made on the temporal and topographic distribution of malaria. Rome lies in an extensive malarial district, but is itself free from the disease, at least in its interior. The cause of the absence of malaria in Rome is not to be found in the air, as this at all times blows over Rome from the Campagna; nor in the water, or the food, both of which come from the malarial districts. The only factor that comes into play is that, as the interior of the city is without vegetation, it is entirely free of mosquitos. Malaria is rare in winter, a few cases are seen in the spring, but in June the number becomes very large. Another point observed by the commission was the successful use of methylene-blue in two cases of malaria. Koch also states that he found in the cattle of the Campagna, which suffer from Texas fever, the same tick that spreads Texas fever in Africa, and which is identical with that found in Texas.—*Philadelphia Medical Journal*.

Syphilitic Iritis.—The chief symptoms are (1) ciliary congestion with a certain amount of pain referred to the forehead or temple, photophobia, and lachrymation; (2) discolored iris, sluggish action of the pupil, which dilates irregularly under atropine; (3) adhesions to the lens, deposit of uveal pigment, nodules of lymph in or on the iris.—JONATHAN HUTCHINSON, JR.

A New and Simple Clinical Method of Staining Malarial Parasites.—Dr. Fuchten has recently presented to the Johns Hopkins Hospital Medical Society a rapid and very convenient method of staining the plasmodium malariae. The dry blood specimen, spread in a thin film on a slide, as described by Ehrlich, is fixed by immersion for one minute in a one per cent. solution of formalin in ninety per cent. alcohol. Thyonin is the staining agent. A stock solution is made by adding 20 c.c. of a fifty per cent. alcoholic solution of thyonin to 100 c.c. of a two per cent. solution of carbolic acid. This stock solution improves with age, and can therefore be kept on hand. The fixed slide is dipped in the staining fluid, without previously washing off the excess of formalin solution, and left there for from ten to fifteen seconds. Ten seconds generally gives the

most satisfactory results. The excess stain is washed off, and the specimen, mounted in balsam, is ready to be examined. The malarial parasites come out distinctly with this stain, and retain the color much better than when stained with methylene-blue. The thyonin stain has also been used to bring out the flagellated processes in the æstivo-autumnal infections, and some good specimens have been obtained.—*Medical Record*.

Opium Poisoning has again been successfully treated with potassium permanganate. Dr. Rindfleisch¹ reports the case of a laborer who took twenty grn. (five dr.) of tincture opium who had lost all consciousness and was in the severest stages of the poisoning. An hour after the symptoms were manifest his stomach was washed out and two centimeters of a two per cent. solution of potassium permanganate were injected subcutaneously. This was repeated, and within an hour after the beginning of the treatment consciousness returned, and he was soon completely restored to a normal condition. Rindfleisch further recommends the use of a solution of permanganate (1-2000) for washing out the stomach. In a historical résumé the author points out that this remedy was first used in 1877 by an American physician, but until the recent work of Moore the matter was forgotten.

Sheet Rub in Functional Nervous Diseases.—H. T. Patrick (*Chicago Medical Recorder*, February, 1899), before the Chicago Medical Society, December 21, 1898, recommended the sheet rub in functional nervous diseases. The success of this mode of treatment depends upon its being done correctly. The rub is given at the bedside. Two sheets are used, and these must be placed in such a manner as to admit of instant handling—either over the end of a chair or the foot of the bed. One sheet is dipped in cold salt water, as a better reaction is obtained from salt water than from clear. The patient is taken from the bed and the cold sheet instantly thrown around him. After briskly and vigorously rubbing him through this sheet, it is dropped to the floor, and he is quickly rubbed through the dry one. He then gets into bed, covers himself well, and puts out his feet to be dried, and slapped to promote circulation. To be properly done, this rub should not occupy over a minute and a quarter; if three minutes are taken, the rub is not properly given. It is exceedingly hard work and completely exhausts the nurse or physician who gives it correctly. It is usually given before breakfast. Dr. Patrick gives the first rub himself, and the second is given in his presence, that his instructions may be fully understood. He finds that it quickens circulation, assists the patient to gain in weight, helps in keeping extremities warm, and aids digestion. He thinks that certain elements in the treatment are particularly beneficial in nervous diseases. It produces profound mental impression, exceeding that of any other mode. There is sudden shock, quick reaction, and the feeling of comfort and warmth following impresses the patient with the fact that he is getting well. The author has never failed to obtain reaction, even in patients who had to be held up while taking the rub.—*Medicine*.

¹ *Zeitschrift f. prakt. Aerzte*, 1899, No. 3.

SURGICAL SUGGESTIONS.

Hemorrhage in the New-Born.—When the hemorrhage is from the umbilicus, we should begin by loosening the dressings and trying different methods of ligature, but in some cases these all seem to be absolutely useless. In case of gastro-intestinal hemorrhage, the infant should be placed in an incubator at a temperature of thirty-seven degrees C., or in warm cotton. Three times daily it should have mustard baths, followed by friction with alcohol, hot baths, hot-water bags to the abdomen, hot whisky, and subcutaneous injections of a solution of sodium chlorid, 7 to 100, in amounts of from ten to fifteen grams, repeated four or five times daily.
—DR. H. BROOKER MILLS.

Pelvic Abscess.—The objections that may be reasonably urged against the vaginal route is that it is necessary to depend upon the sense of touch altogether; it is work in the dark. In pelvic abscess, where it is found necessary to remove adherent appendages, the operation through the vagina is very difficult, and injury to the intestines and ureters is likely to occur. In cases where the abscess reaches low in the pelvis, pointing into Douglas' pouch, I certainly would prefer the vaginal route under such circumstances, believing that there would be less danger of infecting the general peritoneal cavity in operating through the vagina. Mere incision and drainage should be practiced only in desperate cases, where the condition of the patient will not admit of a more formidable operation. Patients quite often make a complete recovery from incision, irrigation and drainage; but it is often found necessary to operate the second time to complete the cure; it is always advisable, when the condition of the patient will admit, to make a complete operation at first. Pus cases do not stand well prolonged anæsthesia and shock, so it is very necessary to operate quickly, and I recommend thorough irrigation and drainage.—
DR. O. B. CAMPBELL (*The New York Medical Times*, March).

Hydrocele.—In cases of complicated, doubtful, or old hydrocele, resection of the tunica vaginalis. In simple cases, injection method, using five cm. of pure tincture of iodine, after first emptying the sac and cocainizing.
—MALHERBE.

Appendicitis.—Personally I would allow my junior assistant on the hospital staff to operate upon me for appendicitis, rather than try the best medical treatment for one day.—DR. ROBERT T. MORRIS.

Treatment of Wounds.—The antiseptic method, if contact of strong antiseptics with raw surfaces be avoided, allows an ideal wound-healing. In an uninfected wound no drainage is necessary. For the arrest of hemorrhage, torsion should replace the ligature in the great majority of cases.

Buried catgut sutures are the best for securing apposition of the deeper structures and the skin, for by their use stitch-abscesses and the pain and trouble of removing sutures may be avoided.

All clean wounds should be left undisturbed for ten day and should then be healed.—RUTHERFORD MORRISON.

Intestinal Obstruction.—We must all learn that purgatives are dangerous in suspected intestinal obstruction, and that a surgeon should be called in consultation as soon as enemata sufficiently given fail to relieve the obstruction. Many lives will be saved by the recognition of the necessity of such a course of treatment.—JOHN B. ROBERTS.

Puerperal Sepsis.—Four simple things, if universally and carefully used to-day, would very nearly banish puerperal sepsis. They are: (1) The hand scrubbing brush. (2) The bichloride of mercury or equivalent solution for hands and external genitals. (3) The baked (*i. e.*, sterilized) napkin. (4) The clean suit.—GEO. ERETY SHOEMAKER.

Phagocytosis.—In connection with this (abscess) I would like to summarize the story of inflammation and suppuration, to paraphrase Sutton, and read it zoologically, as though it were the story of a battle. The leucocytes (phagocytes) are the defending army, the vessels its lines of communication, the leucocytes being, in effect, the standing army maintained by every composite organism. When this body is invaded by bacteria or other irritants, information of the invasion is telegraphed by means of the vaso-motor nerves, and leucocytes are pushed to the front, reinforcement being readily furnished, so that the standing army of white corpuscles may be increased to thirty or forty times the normal standard. In this conflict cells die, and often are eaten by their companions. Frequently the slaughter is so great that the tissues become burdened by the dead bodies of the soldiers in the form of pus, the activity of the cells being proven by the fact that their protoplasm often contains bacilli in various stages of destruction. These dead cells, like the corpses of soldiers who fall in battle, later become hurtful to the organism which, during their lives, it was their duty to protect, for they are fertile sources of septicæmia and pyæmia. This illustration may seem a little romantic, but is warranted by the facts.—DR. ROSWELL PARK ("A Treatise on Surgery," page 79).

To Remove Blood From the Hands.—When you have blood upon your hands, first wash them in pure water. Using soap at first is a mistake, as soapy water does not dissolve blood rapidly. Clear water and a nail brush should come first, soap next.—*International Journal of Surgery*.



The Ready-Reference Hand-Book of Diseases of the Skin. By GEORGE THOMAS JACKSON, M. D., Professor of Dermatology, Woman's Medical College of the New York Infirmary and in the Medical Department of the University of Vermont; Chief of Clinic and Instructor in Dermatology, College of Physicians and Surgeons, New York. New (third) edition. In one 12mo volume of 638 pages, with seventy-five illustrations and a colored plate. Cloth, \$2.50, net. Lea Brothers & Co., Philadelphia and New York.

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The alphabetical arrangement of the book having proved so acceptable, has not been changed, and practitioners, students and specialists will find it, as heretofore, a most concise and readily available source of knowledge on all dermal affections, their etiology, symptoms, diagnosis, treatment, prognosis, etc.

A Manual of Venereal Diseases. By JAMES R. HAYDEN, M. D., Chief of Clinic and Instructor in Genito-Urinary and Venereal Diseases, College of Physicians and Surgeons, New York; Professor of Genito-Urinary and Venereal Diseases in the Medical Department of the University of Vermont, etc. New (second) edition, revised and enlarged. In one 12mo volume of 304 pages, with fifty-four engravings. Cloth, \$1.50, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

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Progressive Medicine. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 490 pages, 28 illustrations and 3 colored plates. Lea Brothers & Co., Philadelphia and New York.

"Progressive Medicine" differs radically from the many year-books, annuals or abstracts in which, by mere collation of material an effort has been

made to represent medical advance. The mass gathered in such publications is left for the reader to sift and digest, a mental process which the immensity of modern medical advance has rendered a virtual impossibility for the average reader, who must nowadays rely upon the specialist to reduce science to applicable form. Recognizing this fact, Professor Hare has secured a corps of the most capable and advanced men, each of whom tells, in his own language and in the form of an interesting narrative, the story of medical progress in his special line. The four volumes which will be published each year will cover the entire round of practical medicine in the broadest sense, and their appearance at intervals of three months, instead of annually, will insure the more rapid diffusion of knowledge, which is a requirement of our times. The first volume, just issued, is a substantial octavo of nearly 500 pages, illustrated with engravings and colored plates, and, as the yearly price for the set of four volumes is only \$10.00, it is evident that an exceedingly large demand is anticipated. That these expectations will probably be fulfilled is a fair prediction in view of the admirable manner in which the able contributors have executed Professor Hare's novel and ingenious plan.

Diseases of the Skin. An outline of the Principles and Practice of Dermatology. By MALCOLM MORRIS, F. R. C. S., Surgeon to the Skin Department, St. Mary's Hospital, London. New (second) edition. Revised and enlarged. In one 12mo volume of 601 pages, with 10 colored plates and 26 engravings. Cloth, \$3.25 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Malcolm Morris is well and favorably known on this side of the Atlantic, not only as a Dermatologist, but as the editor of the London *Practitioner*, the best of the English monthly medical journals. Among English-speaking dermatologists of the present day none stand higher than he. With great literary skill he has condensed his enormous experience into a work of convenient size, which has speedily come to the present new edition. This issue has been thoroughly revised to date, and much fresh matter has been added both in text and illustrations, the latter now including ten colored plates. As the work includes the pathology, classification, diagnosis and treatment of skin diseases, it forms a compendious manual, suitable alike for the student and practitioner, and its high authority will commend it to the specialist.

Senile Pruritus.—

R	Potassii bromidi.....	5 ij
	Sodii iodidi.....	5 j
	Sodii salicylat.....	5 ij
	Sodii acetatis.....	5 j
	Inf. gentianæ.....	5 iv
M.	Sig.—Two teaspoonfuls in water after each meal.	

—LAVALLEE (*Revue de Therap. Medico-Chirurg.*).



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NEW REMEDIES.

Phenylacetamid Ammoniated (Ammonol).—(By Dr. H. P. Wells, of St. Louis, Mo.)—The idiosyncrasy of individuals to the various coal-tar products is as various as the products themselves. The most constant effect seems to be depression of the heart and respiration with cyanosis, produced by an alteration of the red blood corpuscles. The cyanosis may be pronounced, but is seldom a serious symptom where the cardiac and respiratory depression is absent. The idiosyncrasy is shown more readily where this class of agents is used in non-febrile disorders rather than in febrile disorders. The febrile state seems to render the red corpuscle susceptible to the disorganizing influence of coal-tar products; but if the fever is of sthenic type, the heart is not as likely to be depressed conjointly with the reduction of fever as it would be were the fever of the asthenic type. Likewise, the disorganizing influence of this group of remedies upon the red blood cells is seldom of itself sufficient to interfere seriously with the vital functions. It is in cardiac and respiratory depression, together with cyanosis of corpuscular disorganization, that life is endangered.

A coal-tar product that is without depressing action upon the heart is what the profession has long required. Phenylacetamid ammoniated seems to be the looked-for agent. Having made careful physiological and clinical investigations for over two years, I can assert that no other pharmaceutical preparation, synthetic or mechanical, has an equal therapeutic potency, and is at the same time devoid of untoward action. It is not as rapid in its action as antipyrine, unless taken with a little sweet wine (sour wine retards the development of full physiological action about half an hour), in which case the characteristic action of the remedy will be noted in about twenty to thirty minutes, which, in case of fever, is a gentle perspiration, followed by a reduction of temperature to normal, but never below normal. Incidentally, all headache, neuralgic or rheumatic pain is relieved; and during the continuation of the activity of the drug the patient feels in the full vigor of health. As the drug is eliminated its effects pass off. The first thing the patient notices at this stage is a chilliness which characterizes the rise of the temperature. The physiological activity of phenylacetamid ammoniated persists about six hours, dependent upon the size of the dose, which may be given it from five grain to fifteen-grain doses in all cases with absolute safety. The duration depends upon the size of the dose, an approximate calculation being an hour and a half for every two grains.

Mr. B., aged twenty-six, weight 170, called February 4th, suffering from trifacial neuralgia of the upper right maxilla with swelling. A number of remedies were tried, including *cannabis indica*, with but partial relief. Phenylacetamid ammoniated (ammonol) was administered in five-grain doses, with the result of completely relieving the pain inside of half an hour. As the pain was relieved the swelling subsided. The effect of each five-grain dose persisted from three to four hours, and the cure was complete with twelve doses.

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On February 6th, Mrs. T., aged forty, had an obscure fever with a bronchial cough. Temperature, 103°; pulse, 120; headache. Ammonol was prescribed in five-grain doses every three or four hours. In half an hour the headache was relieved and fever declined to normal. Next day cough was much improved. In five days cough was practically cured, but on withdrawing the medicine the headache and fever returned. Diagnosis of malaria of remittent type was then made, and specific treatment instituted in addition to ammonol, which invariably controlled the temperature and neuralgia. Her bowels had been regular from the beginning.

Miss K., aged eighteen, well developed and not anæmic, complained on February 10th of ovarian neuralgia and scanty menstruation. Her previous period was unusually severe, and, as she was approaching the next period, concluded to consult a physician. Headaches always accompanied her ovarian neuralgia. Bowels were regular, heart weak and irregular. Ammonol in five-grain doses every three hours gave entire satisfaction. Had it not been for the flow she said she would not have known that she was "unwell" at all, so entirely free from pain was she throughout the period.

Willie O., aged nine years. A year ago he had typhoid fever with a weak pulse of 130 and a daily temperature of 104.6°, until it was reduced with an antipyretic. The nature of the fever contra-indicated any form of a depressant, so it was with caution that I prescribed ammonol in three-grain doses every three hours on account of its coal-tar nature; but, relying upon the correcting influence of its ammoniation, I determined to try it. The pulse went down to 100 and more vigorous, the fever to 99°, and the delirium subsided, permitting a refreshing sleep. These happy effects led me to continue its use throughout the course of the disease, with the most satisfactory results.

These are only a few cases out of many, but they are examples of the effect of ammoniated phenylacetamid on neuralgia, cough and fever, which place it at the top of the list of antipyretics and antineuralgics. Its strengthening effect on the heart gives it a unique place in the treatment of fevers of asthenic type, such as typhoid, typhus, tuberculosis, septicæmia, etc., which contra-indicate all other sedative antipyretics. I have never seen any cyanosis or difficulty of breathing from its use, and all those who are susceptible to the coal-tar group may, I believe, take this agent with impunity.

Glyco-thymoline: The New Blennostatic in Nasal Catarrh.—(By G. Howard Thompson, M. D.)—Nasal catarrh and its many complications has caused endless annoyance and uneasiness, both to the patient and the medical practitioner. Once firmly established, it becomes the starting place of various extensive chronic inflammations of the whole respiratory mucous membrane. Having heretofore been almost incapable of successful treatment at the hands even of specialists, it served as the foundation of scare arguments so successfully employed by the advertising quack and patent medicine peddler.

Happily, we have now a means at hand for successfully combating this obstinate condition. It requires none of the hitherto expensive inhalation or vaporization machinery for its employment. Glyco-thymoline is

used with a simple glass reservoir, known by the name of the Birmingham douche, and is exceedingly inexpensive. The medicine itself is an elegant claret colored, slightly alkaline, antiseptic solution, each ounce of which contains in the proportion here stated the following ingredients.

Sodii.....	24.
Acidi boricæ.....	4.
Benzoini.....	4.
Acidi salicylici.....	.33
Ol. eucalypti.....	.33
Thymolini.....	.17
Betulæ lentæ.....	.08
Mentholi.....	.08
Pinæ pumilionis.....	.17
With glycerine and solvents sufficient.	

This the physician will at once perceive, when diluted to twenty per cent. strength, is approximately the alkalinity of blood serum—the normal salt solution. Most of the agents used by the writer, up to about three years ago, were either too irritating by reason of too much carbolic acid, too much alkalinity, or too strong in some antiseptic or other ingredient.

Glyco-thymoline should, however, not be used in concentration. In acute nasal catarrh a twenty per cent. solution with distilled water is best to commence with. This may be increased to thirty per cent. as the trouble subsides. In acute nasal catarrh the mucous membrane, as we all know, is very sensitive, and even a normal salt solution will produce some irritation. A twenty per cent. solution will not be more irritating than a normal salt solution in acute nasal catarrh, and all will agree that this reduction of irritability is the least that can be secured under such conditions.

In a case of acute nasal catarrh, acute rhinitis or, as it is frequently called, coryza, commence with a twenty per cent. solution of glyco-thymoline (using the Birmingham douche for this purpose), repeating as often as the secretions recur. It will be noticed that they recur with an ever-decreasing quantity and at an ever-increasing interval of time, until the secretions cease to reform, the turgescence of the nasal mucous membrane decreases to normal, and the breathing is carried on without pain, annoyance or inconvenience. This will take about three days from start to finish, if commenced early enough.

Should, however, the attack have progressed until the secretions are thick and the breathing painful by reason of turgescence already several days established, accompanied with persistent accumulation of mucopurulent discharges, it will take a couple of days more to effect a cure. If the case is not taken in time the condition becomes chronic and may require two or three weeks to cure it.

Besides the tendency of acute nasal catarrh to become chronic, it frequently spreads along the entire respiratory tract, going through the successive stages of rhinitis, laryngitis, bronchitis and predisposes to pneumonia.

Space will not permit the writer to report any individual cases in the present article, but the reader is respectfully referred to previous numbers of this publication and the *Am. Journal of Surg. and Gynecology*, where

numerous cases of acute, subacute and chronic rhinitis are reported in full.

Besides using glyco-thymolineal most exclusively in various forms of nasal catarrh, the writer finds it a mouth wash unexcelled as a deodorant for foul breath and as a cleanser for the teeth. If foul breath is due to fermentation in the stomach caused by dyspepsia, it will arrest the fermentative process if taken internally in doses of a teaspoonful diluted to the taste.

Crawford Building, Sixth and Washington Avenue.

Vasogen: A New Solvent.—Vasogen is a vehicle which possesses the property of penetrating the pores of the skin more quickly than any other substance. It is an admirable solvent, holding in clear solution iodine, iodoform, creosote, guaiacol, etc., and remedies dissolved in it are quickly absorbed. Chemically, vasogen is an oxygenated hydrocarbon—*i. e.*, a partly oxidized hydrocarbon—and has the power of rendering drugs which are incorporated with it soluble in water or emulsifiable with it. Employed externally, it forms emulsions with the secretions of the body, and thus becomes rapidly absorbed. This fact has been proved beyond question by the presence of the drug in the urine after inunction with iodine, iodoform, creosote and mercury vasogen. Iodine, creosote, etc., when dissolved in vasogen, do not irritate the skin or mucous membranes, and can be used extensively both internally and externally.

For external use, liquid vasogen preparations are poured into wounds or are applied to them on cotton or lint; they are also painted upon the intact skin or rubbed into it with the hand. Internally the vasogens are taken in gelatin capsules or mixed with milk, coffee, tea, wine or cognac. The following remedies in combination with vasogen are largely used: iodoform, iodine, creosote, menthol, beta-naphthol, camphor-chloroform, ichthyol, guaiacol, sulphur and tar. These preparations are made by dissolving the various medicaments in the liquid vasogen during its process of manufacture. Mercury vasogen ointment (33.1-3 per cent. and 50 per cent.) is a special preparation with inspissated vasogen. It may be obtained in handy capsules containing three and four grammes each, can be rubbed into the skin much quicker and more thoroughly than the official blue ointment, is far more pleasant to use and costs no more.—*Pharmaceutical Era*, April 20, 1899.

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THE TRANSPORTATION OF CONSUMPTIVES UPON RAILWAYS IN PULLMAN AND CHAIR CARS—A SUGGESTION.

There can be no doubt that the constant extension of tuberculous troubles arises from ignorance and utter indifference to the dangers of an infectious disease, an ignoring of all laws pertaining to hygiene and sanitation. And nowhere is this more manifest than in the transportation of persons upon the ordinary railway train. In certain months of the year the chair cars and the Pullman cars are absolute abodes of unhygienic and unsanitary conditions. Any one who has ever traveled in them knows that ventilation is an unknown thing within them. They possess the most powerful of heating apparatus and fitful ventilation; a stratum of superheated air strikes one who enters them just about in the vicinity of the face and almost suffocates. The forces at work seem to confine this stratum of superheated air midway between the car's roof and the car's floor. It indeed seems to be hot enough to germinate anything at a very rapid rate, and we believe that generally it is a most complete culture medium for the rapid propagation of an infectious trouble. Mixed in these cars of poor ventilation is the consumptive and person troubled with other infective ailments. Disease has free and unlimited sway, and we believe that if the history of many cases of tuberculosis could be traced, that the reeking air of a Pullman or a chair car could be shown as being their cause.

We believe that it is criminal at this stage of our civilization to permit the free and unnecessary communication of the consumptive and the healthy, as shown in their transportation upon the railway. And it is demonstrable that it is the engendering of conditions which lead to the rapid propagation of such troubles. It can be easily shown that in these

superheated cars there is a stratum of superheated and perfectly dormant air within them, and that this stratum meets all the indications of a culture bed for the rapid propagation of some forms of microbic life. There is no field where greater and more efficient means can be employed to destroy these unsanitary and unhygienic conditions than upon the railway. We maintain that boards of health ought to insist that railways meet them and strive to lessen the extension of such a death-dealing trouble as consumption. Consumptives ought to be made to travel in separate cars and not be mixed indiscriminately and recklessly with the healthy. The present compartment sleeper can be made luxuriously comfortable and at the same time perfectly sanitary. The compartments in these cars need not have an absorbable material within them; their walls, ceilings and sides can be made of non-absorbable material and susceptible to the most perfect ease and completeness of aseptic and antiseptic cleanliness. Individual sputa cups for each compartment and trained porters, trained and educated to the purpose of rapid destruction of sputa and obedient duty, are two essential preventive measures. It is fair to assume that should any railway strive to carry out such measures, they would not only meet the commendation of the intelligent community, but the praise and patronage of all intelligent physicians and persons. In this there is no infliction of injury, or any inconvenience or discomfort upon any one suffering from tuberculosis, but an absolute benefaction, where every element conducive to their bettering in rest, comfort, and soothing surroundings can be met. The present chair car upon a railway is a barbarous device. There is ordinarily in winter months in one of these crowded affairs, enough healthy air to meet the full-fledged function of a cat. They, the travelers, are crowded in a very small money-making space, to the utter abrogation of any law of health and well-being, and often become rolling affairs of infection.

MENTAL OVERSTRAIN AND DEATH.

The recent death of former Governor Flower, of New York, has again enabled the lay press to prove the inevitable penalties of mental overwork. They descant upon the number of prominent and influential men who have been already stricken down in the full tide of their usefulness. They pass wise remarks concerning the appalling evidences of the great and ruinous wear and tear attending the usual struggles for success in the many lines of human endeavor. How a mistaken ambition makes them strive to prove how much can be done within a given time, thus meeting the overwhelmingly self-imposed duties of life, thereby being culpably thoughtless of the demands of a future. How the present methods of business is naught else than a horrible crowding process. That it simply means the getting the most light from our burners without calculating the deep, essential and vital expenditure. That there are thousands of men who are following—yes, unconsciously following—the pernicious example of Governor Flower, and that their taking off is a mere matter of time, only a postponing of a retribution from outrages against nature and against moderation and rest. Each and every one of those who are indulging in mental overstrain believe that they are exceptions to natural laws. Their misapplied pluck and stubborn thoughtlessness are a dangerous offset against reserved energies and common sense. Thus thinking, these men

will make one more fatal endeavor and go to the extreme limits of intensity; then the mischief is done, and then the break-down comes with startling effect and suddenness. Americans live too fast, they work too intemperately, they work too hard, and they have not sense to know it. We know of no sadder picture in life than such men when in the midst of the most serious of vital changes, with strained brain, a gradual wasting of resistance, an insidious approach of a most terrible and inevitable culmination of their intemperance. Their constant abuse of every law of nature seems to beget within them—yes, within their fated and benighted brain—a most delusive conception, and that is that they are individually superior to nature. 'Tis such men who must inevitably meet the penalty of brain-strain and overwork. Like Governor Flower, they are surely to be stricken down in the full tide of their usefulness. It has appeared to the writer that many men in executive positions having conquered so many difficulties, and having obtained so many results, that there is undoubtedly created within their souls a conscious feeling, a delusive conception of their superiority to ordinary surroundings; and there comes a stubborn egoism as regards nature and all else. Yes, they have conquered by hard work whatever they have attempted. They have attained results in many respects remarkable, and from flattery they thus become absolutely deluded and egoistical creatures. There dwells within them an innate feeling of delusive superiority; they defy the inherent capacity of their own brains—yes, they defy their God-made nature, to inevitably end their lives, or become palsied, shattered neurasthenics. The histories of many men who have managed large corporations, and who have grown up from the humbler walks of life, have made them become thoroughly self-reliant, arrogant, and egoistic; and they are utterly incompetent to receive safe, sensible, and worthy advice. They become as thoroughly deluded as any lunatic, and in their extreme vanity they imagine themselves incompetent of failure. Such stubborn, vain, and headstrong creatures have no prospect of any other fate than to become certainly a mental wreck or end their existence.

The writer of this editorial has met more than one powered ego-maniac who had accomplished wonderful results in organizing, wonderful results in management, and accomplished wonderful financial feats. Their very talk is deeply pervaded with the fixed idea of the lunatic; they have accomplished potent results, and they have accomplished these results amidst difficulties, unaided and unadvised. And as their brains become deep-rutted in conviction they delusively imagine that any judgment counter to their own is of no value—in brief, they have become the vain, fanatic, ego-maniacs of result. Intense, stubborn, arrogant, and dogged, in their self-made mental condition, they will not receive advice, and defy all laws of nature, only to surely meet a just punishment for their delusive defiance.

Again, we have among us many men of rare accomplishments and promise, who become pure psychic creatures—creatures of one-sided function who rarely if ever exercise their muscular system, but exercise their brain inordinately. It is a God-made edict that men must live by the sweat of their brow; and that man who lives only to exercise his brain, lives a disorderly life, and in an established disequilibrium must meet the fated result of such condition. Exercise—muscular exercise, in the truest sense

of the word—exercise by the sweat of the brow, by the sweat of every inch of skin surface—is necessary to maintain health. Men of cerebral tension must, above all others, use their muscles to relieve the pressure of arterial tension on their hearts and brains. Certain it is that there are very few prominent workers, or managers of large financial interests or corporations, who know the law of health, as exemplified in proper mental and muscular exercise. Perhaps there may come in the future some strong and forcible character to teach such men how to live, but at present there certainly seems to be no one who can reach them.

THE INTERNATIONAL TUBERCULOSIS CONGRESS—THEIR PLANNING OF SANATORIA.

Not the least accomplished in the meeting of the International Tuberculosis Congress was the discussion and planning of sanatoria for the treatment of the tuberculous, particularly the formation of those sanatoria for the treatment of the middle and poorer classes. In the discussion concerning the best system of their formation, the best mode of their construction and the results obtained, much new and valuable information was imparted.

The situation of the sanatoria should be sheltered and sunny with a wooded neighborhood without dust, smoke or soot. There should be a good and plentiful water supply and a good system of drainage. The height of the building should not exceed two stories above the ground floor. The kitchen should be placed in a separate part of the building and the wash-house in a building of its own. Bedrooms should not be used as living rooms. The minimum of air space should be thirty ccm. per bed. Single rooms should be provided for ten per cent. of the inmates. The baths should not be in the cellar, but in warm, dry rooms. The walls, floors and ceilings should be faced with impervious material easy to clean. The central heating electric lighting tubs with pure water should be provided, as well as arrangements for getting rid of sputum and for sanitary infecting clothes before being sent to the laundry; and that a people's sanatorium should be for one sex and for one class only. The results of these sanatoria have indeed been excellent, and the future promises a great deal more.

Staff Surgeon Schulzen, of Berlin, who discussed the arrangement of sanatoria, advocates the pavilion system. In summer Doecker's movable barracks were useful for extension. The bedrooms should contain from two to four beds, but a small number of single rooms should be provided. Meals should be taken in common under the supervision of nurses. The nurses should be educated ladies. The results obtained in sanatoria so far were good, but the time had been too short to permit a final opinion to be formed. Continuing, Schulzen says the results would be improved (1) by the more careful selection of patients and exclusion of those in a late stage; (2) by extending the duration of the treatment; (3) by the establishment of convalescent homes where patients could, after their discharge from these sanatoria, take up work under favorable conditions. Directors of sanatoria should remain in communication with patients after their discharge; should receive exact reports from them, etc., and should send in

results to a central office, where statistical lists would be made out. We quote from an editorial in the *British Medical Journal* upon this subject, and it is worthy of the perusal of intelligent physicians:

Though sanatoria for the treatment of poor consumptives are of comparatively recent introduction, the number of such institutions in Germany is already considerable. It was only in 1892 that the beginning was made by the establishment at Falkenstein of the first sanatorium for poor consumptives. This was a small establishment close to the celebrated sanatorium directed by Dettweiler, and has now been superseded by the neighboring large establishment at Ruppertsheim, which was opened in 1895. During the last few years the progress in this direction throughout Germany has been astonishing, and more sanatoria for tuberculous patients of the working classes exist in Germany than in any other country. If we inquire as to the causes which have led to this praiseworthy result, two principal reasons are perceived: (1) The good results obtained by the private sanatoria for paying patients and the attention directed to the subject by the writings of Brehmer, Dettweiler and others, and (2) the German system for the compulsory insurance of the working classes.

This system of general assurance under State control was practically inaugurated in 1881, and has been gradually extended and consolidated since then. The object is to give the workman unfitted for work by sickness, accident, invalidity or old age, a legal right to a provision sufficient to render him independent of public charity or poor-law relief. The practicability of this colossal scheme has been abundantly proved by its successful working under the paternal government of Germany. The results of the system are, from a medical point of view, already very great. The possible relationship between traumatism and various diseases has been more exactly studied than previously, and the most reliable methods of dealing with workmen's injuries (so as to accelerate recovery or minimize resulting disablement) have been investigated on a larger scale than was formerly possible.

The necessary funds for this system of assurance are furnished partly by the employed themselves, partly by the employers, and partly by the State, so that all parties have a common economic interest in maintaining the welfare of the working classes, both by making the conditions of their lives as hygienic as possible, and by affording them the best possible treatment when injured or diseased. For insurance against accidents the chief contribution is furnished by the employers, who likewise subscribe a sum for insurance against illness equal to half the amount paid by the workmen themselves. It is therefore in the employers' interest not only to guard their workmen against accidents of all kinds, but by proper ventilation of the workrooms, and by every other rational method, to diminish their liability to consumption and other diseases. The medical and surgical treatment is provided by local associations, which receive the contributions from the workmen and their employers.

Foremost amongst the questions which these associations have to decide is, what to do with their members who become consumptive. Considering the relative frequency and the chronicity of pulmonary tuberculosis, provision for consumptive members must seriously drain the resources of any workman's assurance association, and from the economic as well as from the humanitarian point of view, the best method of treating the disease has to be selected. It is said that about a quarter or more of those who die of pulmonary tuberculosis might be saved by timely treatment according to the methods in use in modern sanatoria. It is reasonable, therefore, that sanatoria for poor consumptives should receive very strong support from the various workmen's insurance associations. Although private philanthropy must always be useful in Germany, as elsewhere, for the foundation and maintenance of such sanatoria, yet assurance associations naturally contribute to the expenses of these institutions in proportion to the number of patients they send for treatment. Gebhard calculates that if an assurance association provide sanatorium treatment for five hundred consumptive workmen, the cost of treatment will be counterbalanced by the result, provided that one hundred and forty of the patients so far recover as to do without sick pay for a year.

THE STATE BOARD OF HEALTH OF MISSOURI.

The editor of this journal has an abiding faith that the time will come when legislators, congressmen and senators will be compelled by wise legislative measures to look after the health of the masses with as much concern as they now look after their own petty ambitions and party measures. For as time will come and go it will be only too plainly shown that their utter ignoring the welfare and disease-producing elements and death-dealing factors of the poor, the weak and the ignorant is a constant menace to all forms of society, its rich and powerful, as well as its poor and needy. The fact that from twenty to thirty per cent. of all mankind die from some form of tuberculosis, the fact that in some countries one out of every five has syphilis, the fact that cancer is increasing and epidemic troubles deplete countries, comes from the still greater fact that men in ignoring the diseases of the helpless, weak and needy, only surely makes the extension of these troubles possible and inevitable. It is only in the perfection of altruistic endeavor that can come the best and most protective measures for the health of all forms of society. Where consumption and syphilis exist most largely among the poor of any community it is only the surer and only the most absolutely certain that the rich will be affected; wealth may separate society, but passions bind them together in no uncertain embrace. Yes, any community will thrive best in health who will take care of the needy. Any community which has all of its individual components selfish will plainly show in time absolute failure. Man now, in his eager search for wealth, has arrived at the zenith of his selfishness; hence we have a world welling in misery and a constantly increasing field of death-dealing diseases. It is a sad thing to say, but it is our honest belief that, in proportion to the intelligence of the American nation, it is the weakest on earth in self-protective, altruistic endeavor. At the very center of our government we have no such thing as a protective health organization, it is only rude and death-dealing conditions which meet anything like efficient consideration. Our government is a true reflex of the governed, and its altruism is a weak, sickly and spasmodic thing; the life of one man is to it like a fly-speck in the center of the sun. We are thankful that every day it is becoming more evident that the ignoring of our poorer classes and their diseases makes a ponderous power for inflicting death and disease upon every walk and position in life, and that the most efficient government is the one which looks after the best interests of all of its citizens. The efficient endeavor, amidst many adverse conditions, of some of our metropolitan boards of health make manifest the working of a force will redound to the benefit of communities possessing, and this particularly regarding New York. There is no greater parody upon human organized health protective measures than is shown regarding the organization of many State boards of health. The State Board of Health of Missouri is a parody of the most pronounced sort. We do not wish to be understood as speaking concerning the personnel of the board, for it is composed of eager, willing, honest, and competent men, who are bound in the narrowest limits of a niggard function by a legislature whose only merit on earth consisted in its caviling upon the most nonsensical and utterly irreverent of objects. The State Board of Health of Missouri is like many other boards—it has a name, and that is all. The legislature robbed it of any purpose,

robbed it of any function, and made it a thing of travesty when it throttled it of its means of support. It has been appealed to to aid in the suppression of small-pox. The only thing on earth that this board could do was to make a diagnosis. This was excellent as far as it went, but there its function ceased, since they were not empowered to even buy a vaccine tube, or empowered to enforce a single edict. There was a time when an intelligent board was formed and gave promise to be a factor of use, but adverse forces from the doctors themselves throttled it as easily as an elephant could thrash a fly. It is a substantial fact that many boards of health have been formed for the most trivial of purposes, to regulate the practice of medicine; to make a weak medical college prosperous. In a neighboring State to Missouri this was the case. This board had a plentitude of power for examination of medical practitioners, and not a cent or a measure to protect the health of this State's citizens. The organization of State boards of health has been, in many instances, a complete abrogation of their cause of formation to become mere regulators of the entry of men to practice medicine within the confines of that or this State. A board of health must, in order to obtain respect, be true to its name and function; and if the history of many of them be studied, it will be found to present the history of the most consummate and idiotic action. The regulation of the medical practitioner is the least of their functions; the protection, study and adoption of means to render disease less frequent, to prevent the spread of ponderous infectious trouble, the lessening of pain and death, are infinitely more praiseworthy and commendable, and meet the true purpose of their formation. It is a truth, plain, evident, and sad, that none have had greater strength and more evil effect upon the real and essential purpose of a board of health than has the physician himself. Such boards are for the greatest good of all—the best form of altruism—the protection of the ignorant, diseased and needy, and not for the gratification of contemptible, puerile, and petty personal ambition. The name of board of health has now in many States engendered the most contemptuous thought. And all of this is from the fact that they have been utterly untrue to the pure purpose of their formation. For God's sake leave the medical practitioner alone, and strive to save the lives of the poor classes. Yes, make the boards of health honest, true, altruistic bodies. Not until this comes about can any board of health hope to obtain the respect and assistance that is required. The Missouri board, as men, are martyrs to the niggard conception of an idiotic body; but, unfortunately, in the past its former boards tried to regulate the practice of medicine more than they did the saving of lives, the lessening of pain, disease and death.

TUBERCULOSIS IN DOMESTIC ANIMALS.

Professor Bollinger, Munich, maintained that tuberculosis of cattle and pigs was identical in its etiology with human tuberculosis, and that the enormous prevalence of tuberculosis in cattle was a great danger to the health of the people. On the other hand, human tuberculosis played a secondary part in the production of tuberculosis in domestic animals. The infectivity of the flesh of tuberculous animals varied with the stage and the degree of the disease. Though danger to man from this source

existed, it was probably not very great, and could be obviated by a proper preparation of the meat, and abstention from the consumption of raw or uncooked meat. The great danger to man was from the consumption of milk and unsterilized milk products derived from tuberculous cows, and the consumption of such milk, uncooked, and for long periods was particularly dangerous to children and susceptible adults. An estimate of the greatness of this danger might be made by observing the frequency of tuberculosis in pigs, which was in the main due to feeding the animals on infected milk. The great prevalence of tuberculosis among children, especially in the form of glandular infection, was to be attributed to the use of infected milk. The first essential measure to prevent the prevalence of tuberculosis among domestic animals was compulsory examination of meat.

THE TUBERCULOSIS CONGRESS.

From lay press reports those reading would come to the conclusion that the Tuberculosis Congress which came to an end in Berlin after a profitable meeting was somewhat of a failure because no new means of treatment was heralded to the world. We learn that it was first suggested and promoted by the Central German Committee for the Establishment of Sanatoria for Pulmonary Diseases, and the full title of the congress was Kongress zur Bekämpfung der Tuberkulose als Volks-krankheit, but such was the interest manifested that it soon became an international affair, and as such has rendered great benefit in the wonderfully intelligent manner in which all subjects which came before it were discussed. Not the least interesting discussion before that body was the views concerning infection. Virchow, by all odds, was the central figure in this congress. As time comes and goes, we cannot help admiring more and more this man. He never appears to get old, but remains vigorous, useful and progressive; an inordinate, practical worker; one of the finest figures in all Germany; and to our conception, including Bismarck and Alt, his equal has not been produced in Germany. His has been the mind to mould, guide and direct the most progressive era in medicine and to unflaggingly work in the best interest of progress. He is a grand figure of effective use, high purpose, and remarkable accomplishment. Hence, his utterances at the recent congress, because of his ability and honesty, possessed peculiar value to the world at large. He thinks that the danger of infection through fowls has been overestimated. On the other hand, the milk of a tuberculous cow is a constant and increasing danger, and that there should be, at no time, any delay in killing infected animals. He does not believe in the entire efficacy of the process of sterilizing milk by boiling, but readily admits it may reduce the danger in its use. The infection from swine, though not as great as from cattle, is undoubtedly serious and deserving of prompt and special attention. The germs of tuberculosis have a habit of congregating only in certain parts of the body. In the hog they appear to assemble in lymphatic gland of neck. With skill these parts can be removed, and with them the risk of infection. In cattle the germs are localized, and if care and intelligence are exercised in the slaughter-house the flesh of an infected animal, cow, calf, or ox can be sold with propriety. Here is a new business with tuberculous butchery.

Virchow's opinion regarding the value of the tuberculin test for suspected cattle was that it is "almost infallible," and believes that no animals which are not subjected to this test should be admitted to any country from abroad. Doctor Breeger, of the Bacteriological Laboratory of Berlin, is a more ardent advocate of this measure than Virchow; he additionally believes that there is a positive curative value in tuberculin; he indicates that its worth has limitations; hence, it is not an infallible remedy. But there was no justification to the pessimistic reaction that followed the first premature announcement of Koch's discovery. The persistent use of tuberculin, he says, will show a distinct healing influence. There are certain advanced stages of consumption known as secondary infection, and it has been customary to regard them as hopeless. Here Doctor Breeger avers that help has been rendered by tuberculin even when secondary infection has set in. Some allowances will be made by the outside world for the close relations that exist between this bacteriologist and Doctor Koch, but his utterances on this subject are entitled to consideration and heed. Doctor Breeger is convinced that all failures are due to bad management or inaccurate understanding of cases. Tuberculin will certainly aid in the detection of influenza, but it is so specific in its character that it will not reveal many allied complaints. Its value is mainly in tuberculosis. Many of the failures that have been reported are due to the use of too small a dose; the patient, already in an advanced stage of the disease, having a large quantity of natural tuberculin in his system, and thus failing to respond to a small addition. He (Doctor Breeger) admits that accidents have resulted from the use of large doses, but he says that these might have been avoided with due and proper precaution. He further averred that the experience of the Koch Institute in Berlin carried out most fully the views herein expressed.

A NEW SPECIALTY NEEDED WITH A NEW NAME.

It no doubt has been suggested to many that a specialty devoted to the study and consideration of the diseases of old age alone might be worthy of a place among the great army of specialists; and we believe that a worthy, industrious and conscientious student could make an unusually efficient person, and a very useful factor in the medical field, who would take up the study of diseases of old age. He will come sooner or later, and when he does come there is a name already made for him. In a recent number of the *Academy* we find the following: "I would think that in these days of humanity and old age pension the word 'gerocomy,' meaning the science of the treatment of the aged, stands an imminent chance of being aired." Soon, then, the "gerocomist" will be a living factor.

THE DOGMA OF CONGENITAL OR INHERITED TUBERCULOSIS.

The *British Medical Journal* says: "Virchow disputed the dogma of congenital or inherited tuberculosis on the strength of his own pathological examinations. The existence of tuberculosis in unborn or new-born infants had never yet been conclusively proved. Infection took place after birth—it might be in the first days of life."

HEREDITY, IMMUNITY AND DISPOSITION IN TUBERCULOSIS.

According to Professor Loeffler, of Greifswald, congenital tuberculosis is extremely rare, and that in all such cases tuberculous disease of the mother's generative organs has been found. He does not believe that the tuberculosis of the father was any part in the heredity transmission of the disease. And as far as immunity is concerned, there is no proof as yet of immunity to the disease, nor of congenital or hereditary disposition to it, but that there is great probability that other diseases of the respiratory or digestive organs, as well as disturbances of nutrition, favored tuberculous infection.

THE MICROBE.

Ah, me! what unconscious, insidious, deathly perils do fatefully environ
 That man whom teeming millions of millions of microbes do battle with!
 Millions there are which thrive, millions in deep death, dark fame they
 dwell
 Like hellish, barbarous, invading fiends sack the man—aye, sack deathly
 well;
 They murder man by thousands, millions, unhindered and in peace and
 unseen;
 They murder him regardless, remorseless of anything! murder him
 awake, asleep in dream!
 They kill and kill, ever silently, surely, unceasing, kill—yes, how and
 when they can,
 From the wee babe, the mother, the aged—aye, even the dark, stern, war-
 like man!
 In man's mortal living heart each microbe its true death-dealing nature
 pursues;
 Their growing millions surely make millions wound: 'tis then deathly
 slaughter ensues!
 What groans, pained groans, fill the air in seething, martial microbic field!
 How fierce a mass this microbic mass, to make this mass of man to yield!
 Microbic life, hideous! yes, dire, fateful leader of earth's greatest killing
 power!
 In birth pettiest thing of earth, monstrous fecund power, welling millions
 in an hour,
 Hid deep in the womb of time and in man, then in lively force to millions
 bound
 To thrive and reek on earth in living multiplicity and shake the great
 world around.

CLINICAL LECTURE.

SURGICAL CLINIC ON DISEASES OF CHILDREN.¹

By CHARLES R. L. PUTNAM, M. D., of New York City,

Instructor in Diseases of Children, New York Post-Graduate School.

CASE 1.—DOUBLE HARELIP.—This child you saw operated upon last week, and the operation has turned out to be as you see. Although the mouth is covered in and the gap gone, there remain two fistulas—one in each corner of the wound; these fistulas may need to be, at some future time, closed in. (They have since closed in perfectly.) There does not appear to have been any infection of the wound. The operation was done at one sitting. If there be a projection of the intermaxillary bone, this bone should be replaced, if possible; if not, then it should be excised. In these operations there are certain points which should always be borne in mind. It is necessary to obtain union by first intention; to accomplish this the edges of the wound must be carefully approximated, and there should be no tension in the parts. The cleft was between the central and lateral incisors and was complete on both sides.

CASE 2.—SINGLE HARELIP.—Here is a child who presents an entirely different form of harelip. The lower jaw is very poorly developed, and before the operation the intermaxillary bone projected nearly an inch in front of it. The fissures were on the left side, involving the lip, extending into the nostril, and the whole length of the intermaxillary fissure. Since the operation the constant pressure of the newly made upper lip has moulded the intermaxillary and pressed it back so much that the falling away of the lower jaw is scarcely noticeable.

By means of a pair of bone forceps properly guarded and placed in the nose the intermaxillary line on the sound side was broken; the vomer was also broken. The edges of the bones were trimmed and the parts brought together and sewn with silk-worm gut. Then a simple operation for single harelip was done. Accurate suturing of the mucous membrane is of even greater importance than the suturing of the skin, for in those unfortunate cases in which primary union does not occur, it will nearly always be found that the breaking down of the recently glued surfaces has commenced on the deep or mucous aspect of the lip. One should not forget that in fracturing the vomer and pushing back into place the portion of bone in the cleft—*i. e.*, the *os incisivum*—not unfrequently means fracturing the ethmoid, possibly at the base of the skull. When the bone has been replaced there is no doubt that the fissures in the lip can be the more readily sewed and a better appearance is produced, that the normal shape of the jaw is maintained, that the lip does not recede, and that the patient may in after life use his own incisor teeth; all this follows in those cases which have been operated upon successfully. After the operation a soft rubber catheter was placed in the nostril on the side where the cleft served as a support between the broken septum and the lateral cartilages;

¹ Delivered May 20, 1899, at the Post-Graduate Hospital, New York City.

this catheter always should be used unless the passage is clearly unimpeded, in order to prevent callus forming and creating a spur on the septum; this will not occur if such a splint be used. In this child you notice the catheter in the nose. In both these cases a blanket suture of silk-worm gut was passed from cheek to cheek and left in for three days to prevent tension of the delicate approximating sutures.

CASE 3.—CERVICAL ADENITIS.—This child presents all the features of an ordinary cervical adenitis. The majority of these cases are tubercular in character, although their origin appears to be from inflammation of the tonsils, which destroys or lessens the function of that gland as a filter. This is not a multiple adenitis, but a simple enlargement of this small group of cervical glands. There is no doubt but that at some time or other the tonsils have been more or less inflamed. In this instance it might be advisable to widely lay open the part, dissecting carefully everything out of the way and remove the glands in their entirety, bringing the parts together carefully in order to get primary union.

CASE 4.—TUBERCULAR ADENITIS.—In this case we have a tubercular adenitis involving the cervical glands, and they have broken down. The diagnosis in this case was made from the general appearance of the child. After invasion of the glands by the tubercle bacilli a fatty metamorphosis occurs, which converts the gland into a whitish, caseous material, often mingled with a thick, curdy pus. For a long time it was argued that there was no tubercle bacillus in that pus. It has frequently been demonstrated. It can also be found in the parenchyma, as can be readily ascertained by injecting the suspected material into the peritoneum of an animal—as a guinea-pig—when tubercular lesions will develop. Time and time again has it been proven that the tubercle bacilli were contained in the pus. This condition might be confounded with either a lipoma, sarcoma or syphilitic glands. In the latter, differentiation is not difficult when we remember that in acquired syphilis the involvement is multiple and discrete, and that the adenitis of congenital syphilis does not usually break down. The mass fluctuates too freely for sarcoma. The skin is not drawn in in the irregular way characteristic of subcutaneous lipoma. If possible, the removal of a tuberculous gland should be done entire, without rupture of its capsule. The great object to be kept in view is the avoidance of sinuses and the formation of ugly cicatrices, which are characteristic of long-continued suppurations. Often where tubercular suppuration exists the pus is sterile as regards other organisms.

CASE 5.—TUBERCULOSIS OF A PHALANX.—About one week ago you saw an X-ray photograph of this child's hand. Since then it has been operated upon. The affected part was cut down upon, the point of disease was gouged out with this very fine curette, made for operating upon the mastoid cells, especially that part where the epiphysis and the bone were growing; after thorough removal the parts were brought together and sewn without drainage. We now can note that the part is not particularly smaller than it was, but it has a different color. Longitudinal wrinkles can be seen, and it is no longer tense as it was, and there is now no inflammation in the bone at all. It is necessary that these cases should wear a splint for a long time to insure complete rest. The X-ray showed us that the disease was in the head of the bone, about one-sixteenth of an inch

from the joint; and it is easy to understand how readily the disease, if left alone, could have gone through into the joint. In the beginning of the disease upon section of the bone one sees a yellowish-white or pure yellow mass lying in the spongy tissue, made up of miliary tubercles, some of which have gone on to cheesy degeneration. The way this infection occurs is seen in the so-called "white swelling" of the knee-joint. This usually results from infection by the opening of a primary nodule from the bone into the joint. In the very young the femur is most often the starting point, next the tibia, and then the synovial membrane. The older the patient the greater liability is there that the synovial membrane will be the starting point, because the growth of bones become less active then. As the disease advances the articular cartilage becomes attacked, ulceration takes place, and the disease so works its way through and breaks into the joint, and so is formed a "white swelling" of the knee-joint with a tubercular synovitis. In some instances the process starts in the lower end of the femur, but not always, except in the very young. When there are early symptoms of knee trouble you should suspect the head of the tibia of being involved. In all these cases an X-ray photograph would be of great service, enabling you to find the location of the disease in the tibia, and so permit you to curette the disease at once, often with splendid results. Good results follow the rubbing of iodoform into the head of the bone; again, one may inject iodoform suspended in glycerine (ten per cent.) directly into the diseased area by means of a syringe. In operations upon long bones, as in this child, one should bear in mind the danger from hemorrhage. I have seen death occur in a perfectly healthy man from an operation for reducing a fracture complicated with a dislocation of the head of the humerus; the fracture was through the anatomical neck. On account of the amount of bone broken off and dislocated, correction of the deformity could not take place without an operation. The joint was enormously swollen. The spongy portion of the bone bled so constantly that in the course of twenty-four hours the man died; the bleeding was from the veins and oozed continually. In regard to the question of stopping bleeding from long bones, it is absolutely easy if one is prepared for it. Among a few things that might be used is a sort of wax which sculptors use for modeling; as this is poisonous it should not be used. To Victor Horsley we give credit for discovering the use of beeswax for controlling hemorrhage in bones; beeswax one part, almond oil seven parts, salicylic acid one per cent. This formula is given wrong in several textbooks, which probably accounts for the poor quality of the "antiseptic wax" often prepared. When placed in warm water the wax is made cohesive and does not shrink, and this can be pushed in and so occlude the bleeding vessel; the wax is sometimes absorbed in about a week. That it is absorbed at the end of a week has been demonstrated by opening up the scalp and incising the bones of skull and filling in with wax; at the end of a week the wax has been absorbed. One should never be afraid of bleeding from bones if they are properly prepared with this wax. If a large cavity is left in the bone after the removal of the tubercular disease, decalcified bone may be used; this is prepared in the following manner: The compact layer of a bone is used, from which all periosteum and medullary tissue is removed; divide this into longitudinal strips about one-eighth of

an inch wide and immerse in a watery solution of hydrochloric acid (ten to fifteen per cent.); this should be renewed for one or two weeks daily; then wash thoroughly in water, cut into small chips, soak two days in a 1-1000 bichloride solution and store it in a solution of iodoform in ether. Other methods are: replacing the button of bone removed; inserting catgut rolled up into a sponge; and the aseptic blood clot as proposed by Schede; the blood clot protects the edges of the wound and forms a scaffolding on which new blood vessels may form.

CASE 6.—CONGENITAL DISLOCATION OF THE HIP. For a long time nobody noticed that there was anything wrong with this boy; then his parents learned that he did not walk. You see that the limb is rotated outwards and abducted, and seems to be shrunken. Motion is perfectly free and there is no spasm of the muscles as we flex the thigh, which shows that there is no soreness in the joint; this excludes hip-joint disease and fresh dislocation of that joint. The question now is, what have we? It is not a fresh dislocation upon the dorsum, nor is it a fracture; there is no pain or tenderness. There is no history of injury at any time in the child's life. This is a congenital dislocation of the hip, and here I can feel the head of the bone perfectly well dislocated almost down to the obturator foramen. Of course, the only thing to do is to operate. This child is going to have an X-ray photograph taken, and so we can follow the case through in a more interesting manner; we have examined the child; we will soon have the X-ray, and then we will see the operation done, and later note the results obtained from the operation.

In an introduction to a discussion on the treatment of tuberculosis (*Birmingham Medical Review*, April, 1899, p. 204) Dr. Lionel Stretton remarks that "to-day the consumptive must seek salvation by living in the open air and swallowing large doses of creosote to the verge of poisoning." He thinks that fashion may drive the open-air treatment beyond the range of safety, and that it should be used only in selected cases and with proper safeguards. The use of creosote internally has not been in his hands altogether satisfactory. Large quantities, when taken, are unpleasant to the patient, who then tastes and smells nothing but creosote, and to the patient's friends, who can always recognize his proximity by the odor.

Speaking of the *prevention of consumption*, Dr. Stretton pertinently draws attention to the inefficacy of precautions to prevent the spread of tuberculosis by milk or meat, if consumptive persons are employed as milkmen or butchers. He thinks that the prevalence of consumption amongst bakers may possibly sometimes infect bread. There is much in his warning against retaining consumptive domestic servants in the household, and we may add the advice to be especially careful as to the nurses who have the charge of young children.

ORIGINAL ARTICLES.

URIC ACID DIATHESIS AND ITS PARTICULAR LESIONS IN THE MOUTH.

By W. F. A. SCHULTZ, M. D., of St. Louis.

GOUT is a disease known, if not especially recognized, by physicians many centuries ago. The first precise description of gout is attributed to Coelus Aurelianus (who lived, according to historians, in the second century). Another who explained this malady of later date was Thomas Sydenham; he himself suffered about forty years with it, and his treatise dates back to 1683, under the title "*Tractatus de podagra et hydorpe.*"

Since then many elaborate articles have been stretched forth into the profession. And much pathological investigation has been done to find the causative factor; but, as it appears, little has been demonstrated, and only few facts exhumed during the long scrutinizing and evolution perfected by the untiring pathologist. It has been known that uric acid in the tissue does mark the largest figure in its symptomatology; but how the acid is formed in such exuberant amount is the question that perplexes the many. It is not an absolute settled proposition whether the acid is increased in the blood or compounded while the elements are in the urine. Physiology teaches us "that small amount is found in the blood," and at the same breath says that the "salts present in the urine are in overproportion to the acid in the blood." This last statement would naturally allow us to think further and decide that there is salt formation occurring while in the urine. As Kirk says: "Probably the salts are formed during secretion."

The practitioner of medicine may interrogate a few questions on this problem of pathology; namely, if the acid and the salts are combined in the blood, what causes the increased amount in the somatic tissue, blood and urine? is it the increased formative process or the decreased eliminative? or, if most of the affinal alkalies unite in the urine, why is it not excreted, so it does not get back into the blood again to circulate around and deposit out in its predilective places known to us that characterize the affection, and lastly, is the superamount of uric acid and its derivative the disease or only a sign of an obscure co-existing malady? On these few interrogations hinges the whole system of treatment.

The pathology connected with this ailment that causes the deposition of urates is or does seem as perplexing to the mind as the enhanced, oxygenated and halogenated circumstances spoken of before. Strümpell likes the arbitrary classification of gout into "normal or regular gout" which affects the joints, in contra-distinction to "atypical internal gout" which attacks other parts of the body. Though he further adds, "this is an artificial distinction." What we will be contented with is the peculiar selective spot of the salts deposits, and not caring for any artificial nosological division. It is true to assert without commenting that by uric acid diathesis other and different parts of the body become tainted. When

there is an accumulation or irritation to the mucous membrane of the alimentary tract, symptoms of indigestion will arise, and the inflammation may spread to adjacent tissue and form complications, as when the urethra and the conjunctiva become inflamed. Pleurisy and pneumonia have been caused by uric acid diathesis; so also has eczema been traced to have occurred of the similar factor. During the molecular storing of the salts of uric acid in the synovial tissue, a same principle is obeyed by the deposits in other somatic tissue. It is explained by Ebstein, quoting Strümpell: "He found that the depositions of the salts are invariably preceded by necrosis of the tissue. The uric acid while still in solution acts as a chemical irritant upon the cartilage here and there, and thus produces necrosis, whereupon the urates are crystallized out and deposited. Then a secondary inflammation develops around these foci of necrosis." Now, satisfied with these preceding remarks, we will go home and apply the facts to an almost self-demonstrated truth—to the organs in the mouth, under the familiar title used by the dentists as "pyorrhœa alveolaris," where this disorder has the common cause. The theory advanced by Ebstein iterated above can admirably be adapted to the state we find in the mouth. The urates accept the predilective irritation offered by the joints of the teeth, which in syndesmology is styled "gomphosis" articulation. It would be plausible to believe with the quoted author when he says there is tissue necrobiosis before there is uratic deposits. And the truth seems plain, as we find the example calculated before us at the teeth articulation. This circumstance may ably be indorsed by the close observative stomatologic surgeon, as he contents himself after extraction of a tooth; or even where it is still held *in loco*, he discerns the peridental membrane gone and the naked root seen to some high extent in the alveolus; and in advanced cases the alveolar process that naturally surrounds the root, loose, completely exfoliated, with pockets that are deep and high which are welling out pus or sanious matter; and at a time find a uratic lithos or stone at the very apex of the root.

Uric acid salts can also be demonstrated on the sides of the fangs in this disease. The acid solution has, as is claimed, disintegrated the peridental membrane, and from this effect the tooth or teeth become loose and oscillate in their sockets. The pyorrhœa complained of in this disorder which is concomitant and pathognomonic, is undoubtedly local in feature. It is reasonable to ponder that the tissue disintegration which is apparent is not all absorbed by the absorptive process; but much is cast off and trickles along the root in making its egress from the gingival festering; as this destructive process continues, a sinus or *cul-de-sac* is framed. Again, as we now have these abnormal pouches, the result of pathogenetic change, during mastication foodstuff may lodge there and latterly set up or form pyogenesis, and finally define into an abscess.

To show this tissue distinction averred to before in this elegy is a concomitant and pathognomonic of uric acid diathesis, Da Costa (on medical diagnosis) says, speaking about gout: "There is great proneness for tartar to collect upon the teeth." The "tartar," as he pronounces it, is probably and possibly urates, as that deposit is copiously circumlaid about the neck of the teeth. Strümpell suggests that "uric acid salts are excreted by the glands where there is inflammation of these organs." This assertion may be veritable, and the salivary glands may also pour out the

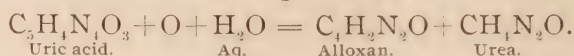
salt in solution, and thereby coalesce a calculus on the teeth and gums. Pain, another prominent symptom in this malady, located in the jaw-bone, has for its construction the same as pain in the metatarsophalangeal articulation of the great toe in acute attack of gout. With these and analogies we might think there is an approximate relationship existing between gout attacking the joint of the great toe and that which predilect the gomphosis articulation in the maxillæ; and also a similar nature existing in soft tissues in different places of the organism, and that assailing the gums and periodontum.

In the way of treatment much can be alluded to, and far can be the question discussed. In regard to medicinal agencies, we are not in possession of a dogmatic or positive medicine that cures all cases. No prescription has ever been compounded that promises good results in each case; but a flying sketch in repetition of some truth, and theoretical arguments expounded by hard and laborious research, may prove available, associated with other facts. The first impediment to be surmounted is the great amount of alkali urates in the blood. Uric acid is sparingly soluble in cold water, but much more in hot water—as to the ratio, 15,000 in cold aqua to 1,800 in boiling aqua; it is very evident then what occurs in the urine—very little elimination in the pure state in solution. Physiologically the uric acid is combined as salts, and these are more soluble; if this be not the condition, there would be a heaping up in the system, as it were, but so it is expelled. According to these conclusions, the more water drank and eliminated the sooner would the salts be washed out. Hence, a diuretic with a large amount of water to drink would be one indication. Ammonium cyanate, another name for uric acid, is a dibasic acid—thus the formula $\text{H}_2\text{C}_5\text{H}_2\text{N}_4\text{O}_3$; the urates are then acid salts, as hydrogen in the molecule is not displaced by the metals or ammonia. Therefore, as we have alkali cyanate compound present in solution in the humors of the body, and as tophi deposits around the joints it cannot be easily decomposed and discharged. We are aware of the truth that the salts of lithium are the most soluble. Then here is the difficult problem in chemistry: how can the sodium and ammonium urates be split up and reformed by the alkali lithia to compose the most soluble salts? The affinity of the other alkalies is greater and always present to join in a chemical change. In theory and practicability it would seem wise to decompose the natural, common, existing salts and recompose the lithium instead.

It may be acceptable in this place to add a few remarks upon the vague and empirical practice that is being perpetrated by those misinformed. The myriad of preparations, nostrums and pleasant-smelling mineral spring waters containing lithium, recommended by manufacturers and some doctors, are very nearly as bland and inert to decompose the alkali urates as pure water from the wells or clouds, and surely more injurious for the patient.

Exercise, which is recommended as a remedy, can be contested also by fair antagonism. Physiologists say after taking calisthenics or after labor there is more uric acid in the blood than at rest; as this is true, muscular exercise would increase metabolism and enhance uric acid formation; though it is understood muscular metabolism results in kreatin, and krea-

tin changes into urea. But we may argue the other side of the case by saying that the preceding is true; yet during the normal metabolic transformation the secretions and excretions are increased, and this process, as it were, would discharge through the excretory organs and expel in that way; another theory is by the oxidation process. The ammonium cyanate when being oxidated forms two compounds, alloxan and urea—thus:



Alloxan appears to be the intermediate stage of uric acid and urea by the chemical process of oxidation and conversion. This last statement made began as a *theory*—that word was not a misslip. It has been shown, contrary to the general belief, that the nitrogenous or proteid tissues are not used up during hard labor any faster than when at perfect rest; but, on the antithesis, increased muscular exertion is attended by heightened consumption of stored up fat; and, as we well know, by starvation the fats are first used up as fuel also.

Now for the last suggestion to the internal treatment. It seems by the foregoing that no positive remedial process is yet had. The same can be mooted in regard to the much-practiced conservatism prescribed by diet. It is learned from physiology that urea and uric acid are also derived from the ingesta of a large amount of nitrogenous food. This averment is countermanded in Kirk's "Physiology," twelfth edition, page 217, as it says: "A method of getting rid of an excess of nitrogenous matter is provided by the digestive processes in the duodenum, whereby the excess of the albuminous food is capable of being changed before absorption into nitrogenous crystalline matters easily converted into urea, and so, easily excreted by the kidneys, affording one variety of what is called *luxus consumption*." But this is followed in the same paragraph stating: "But, no doubt, after a time the organs, especially the liver, upon which the extra amount of the ingested diet throws most of the stress, will yield to the strain of the overwork and will not reduce the excess of nitrogenous material brought to it into urea, but into other less oxidized products, such as uric acid." This state of things, however, is delayed for a long time, if not altogether obviated, when large meat-eaters take considerable amount of exercise.

The treatment discussed has been extolled for typical and atypical gout, and also for uric acid diathesis that may affect the mouth. In conjunction with the lesions in the oral cavity, surgical interferences should be instituted likewise here, viz.: the inflammation of the jaw-bone, gums and periosteal membrane; the loose teeth cared for and the accumulation of urates removed. The consideration of this part of the treatment would be so extensive that the previous hints should act only as an index—although all-important as it is, it must be omitted for this time.

Marriage and Tuberculosis.—According to Professor Kirchner, of Berlin, the dangers which attended the marriage of tuberculous persons were dangerous for the patient, for the healthy husband or wife, and for the children. The danger was greater among the poor than among the well-to-do.

THE RATIONAL TREATMENT OF CONSUMPTION.¹

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THE following brief observations are derived from the comparative study, extending over a period of nearly twenty-four years, of some 10,000 carefully recorded cases, some in private practice, but for the most part in the Royal National Hospital for Consumption and Diseases of the Chest at Ventnor. Many of the patients have been under continuous observation for several years, and others have presented themselves at varying intervals, thus affording opportunity for recognizing changes in the physical signs and verifying progress or the reverse. The general principles of treatment to be discussed are those carried out at that hospital by myself and colleagues, but for the special methods detailed I alone am responsible.

The recognition of the tubercle bacillus as the specific infectious element, and the researches into its natural history, associated for all time with the name of Robert Koch, first permitted the foundation of a rational system of treatment of pulmonary tuberculosis on the basis of a sufficient and determined pathology, and a direction and precision were given to the therapeutics of tuberculosis where previously all had been speculative and empirical. It is impossible to treat pulmonary tuberculosis on scientific lines without having constant regard to its pathogeny, to the sequence of the different stages of its evolution, and to the various circumstances by which they are conditioned, and the careful recognition of the relations of the objective and subjective symptoms to the various and successive pathological processes in which they have their origin and of which they faithfully reflect the progress and intensity, and also to the changes going on in the affected organs. It is from the indications thus derived that a rational treatment must be based. We know for certain that the disease is not only amenable to treatment, but that it is, even in its completed stage, capable also of self-arrest and cure, indeed without the consciousness of the patient. Such a result must necessarily be attributed to changes occurring spontaneously both in the constitutional and local conditions—a return to the *status quo ante*—which are inimical to, and incompatible with, the infective energy, if not indeed with the survival of the tubercle bacillus. To recognize, and if possible to imitate, the methods and to reinforce the influences by which nature accomplishes this result constitute the *rationale* of treatment.

Pulmonary tuberculosis presents itself in two distinct stages: (1) the acute or pyrexial, and (2) the chronic. The former, which precedes the latter, has much the graver significance and is that which makes by far the heaviest demands on our knowledge and therapeutic resources. It usually passes into the second or may return again and again in the course of the latter, indicating a recurrence of destructive activity.

¹ Abstract of a paper read at the International Congress on Tuberculosis at Berlin, May 26, 1899.

ACUTE OR PYREXIAL PHTHISIS.—This is a specifically infective fever. It is not determinate in evolution and does not tend to resolution, but rather to dissolution or to chronicity. This pyrexia is pathologically characteristic and significant. It is from the beginning adynamic in type, reflecting the constitutional asthenia, and therefore all depressants must be avoided in its treatment. The febrile movement is somewhat irregular and composite in character; but two stages can be easily distinguished, sometimes, indeed, alternating and passing gradually into one another. In the earlier or infective stage the thermometric range is pneumonic in type and corresponds to the varying conditions in the lung of irritation, infiltration, and consolidation. It is often accompanied more or less by hæmoptysis. This early pyrexial stage may also present itself as an intercurrent phenomenon. Occasionally the sudden inflammatory extension of an already developed tuberculous area may be thus indicated in the character of expectoration in addition to thermometric record. It is in this acute stage of the disease that the various forms of local counter-irritation are indicated, such as repeated small blisters when there is intercostal tenderness on pressure, and actual cautery when the expectoration is blood-stained or pneumonic in character, and preparation of iodine may also be used externally where large areas of pleural tenderness call for relief. This acute stage may end in complete resolution and there is recovery without material damage to the pulmonary tissues. More frequently (and this is often unrecognized) it passes into the second stage of acute pulmonary tuberculosis which is characterized by an extreme diurnal range of temperature, the maximum being reached almost always in the evening. This has all the characters of septic pyrexia; it is produced by the absorption of the necrotic materials resulting from the toxic effect of the progressing bacillary infection. The febrile movement is essentially one of collapse and reaction, the extent of which is gauged by the extent of the disturbance of thermometric equilibrium. The low morning temperature which is characteristic of this febrile stage is usually accompanied by a feeling of chilliness, especially down the spine, approaching the character of rigors, while the high evening temperature defervesces in profuse colliquative perspiration. It so strongly resembles in these marked features the malarial types of fever, especially the quotidian type, that it even suggests the possibility that it corresponds to, if indeed it is not caused by, the daily maturation and shedding of broods of bacillary spawn or germs. Our knowledge of the embryonic or the pre-bacillary stage of the adult bacilli and their mode of reproduction is still defective. Its further investigation might throw much-needed light on this point. Resolution in this stage is indicated by the restoration of the thermometric equilibrium and by the cessation of the objective symptoms. On the other hand, the process of disintegration may become complete and the third stage, or that of excavation, may be attained. In the light of these considerations it is evident that the fever of tuberculosis calls for our earliest and most potent therapeutic methods, for not only is each pyrexial wave produced at the cost of a corresponding amount of lung tissue, but the already seriously debilitated system is still further devitalized by the attendant sepsis and by the organic demands of the abnormally high temperature.

It is evident from what has been already said that we have to deal with two distinct but related and often intercurrent phases of phthisis—the acute and the chronic—each of which calls for its appropriate treatment. The more we recognize that in tuberculosis we have to deal with a typical form of parasitism the more clearly are the principles of its therapeutics indicated to the physician. It is this mode of regarding the disease that explains the value of those so-called hygienic methods which have, very properly, of recent years been more and more recognized in its treatment. Unfortunately, this appreciation has been carried too far and there is a tendency to neglect or even to exclude completely other not less valuable medical resources at our disposal. To dispense with these therapeutic weapons is like a man combating a relentless enemy with his fists only while potent arms of precision lie neglected at his side.

I have endeavored in the above observations to state the indications and to formulate the principles on which a rational treatment of consumption should be based, and I shall now proceed to consider the therapeutic methods at our disposal under the three heads of (1) hygiene or general treatment; (2) regimen or dietetics; and (3) medical treatment, including the symptomatic and special treatment. We have next to consider how these remedial measures are to be employed in the treatment of the two phases in which the disease is presented.

HYGIENE OR GENERAL TREATMENT.—In acute pulmonary tuberculosis this covers the general management of the case. It concerns the personal conduct of the patient and his immediate environment with its temperature, the amount of exposure to fresh air and sunshine, and the amount of exercise permitted to him, and, lastly, deals with his diet. The principal conditions of this treatment are to be considered under the following heads: (*a*) Rest—absolute repose if possible of body and mind, in the first place. Nothing tends so much, either in health or disease, to disturb the thermometric equilibrium as either emotional or physical disturbances. In extreme cases it may even be necessary to insist upon the continuous maintenance of the horizontal posture—not necessarily in bed—for a considerable length of time. (*b*) Temperature of the air is more important as regards its equability than in relation to its range, which should not be allowed to fall much above or below 55° F. I am more and more inclined to keep up the temperature to the comfort of the patient by additional light coverings, such as ventilated eiderdown bed-quilts, than by raising the temperature of the apartment. If these conditions, with due precautions, can be accomplished in the open air, so much the better. If the patient is confined to a room, the room should be large, well ventilated, and freely exposed to air and sunshine, with the windows and, if possible, the doors open day and night, and with the bed standing well out from the walls. (*c*) Conversation, especially on exciting or depressing topics, should be deprecated; but the patient should be encouraged to occupy his mind outside of himself, so to speak, by the perusal of light and cheerful literature. We should bear in mind the different mental resources of the sick, and that those who are less cultivated, having fewer mental resources to fall back upon, are apt to brood and despond. (*d*) The general bath should, of course, be prohibited, but if possible the whole body should be sponged over night and morning by the nurse with eau-de-cologne or spirits of wine

and hot water, or toilet vinegar. It not only comforts and refreshes greatly, but it has a markedly favorable influence on the temperature.

REGIMEN OR DIETETICS.—Diet, including stimulants, plays a most important part in the treatment of phthisical pyrexia. A large meal of any kind or red meat at any time should not be permitted. Food should be given in small quantities at regular intervals—say, every two hours during the day and every three hours during the night. It should be varied as much as possible, both in materials and cooking, according to individual or national taste. It should consist of fish (shell-fish in the early part of the day), poultry, white game, pigeons, sweetbreads, eggs, light soups, milk and egg puddings, rice, bread-sauce (instead of potatoes), and of vegetables, which should be taken sparingly; but ripe fruits, especially strawberries, may be taken freely, but always early in the day. These materials should be so arranged that the more substantial of them should be given in the form of meals at regular intervals alternately with the lighter forms, which should be taken as refreshments in the intervals. Milk *ad libitum* may alternate or be taken with each more substantial repast if the capacity and taste of the patient permit it. If the digestion is weak, predigested foods or peptonized meat extracts may be given. Stimulants should be used with extreme reserve. If the appetite is poor, and the strength and vitality are low, a tablespoonful of old cognac beaten up with a fresh egg may be given at intervals during the day, according to the demands of the case, or two or three teaspoonfuls of matured whisky in each ration of milk. A glass of dry champagne may be allowed twice a day with a meat meal if the mouth is dry and the appetite is poor. All stimulants should be spread out as much as possible over the day, and given as early as possible before the evening rise of temperature begins. Malt liquors and all red wines are more or less incompatible with a diet into which milk largely enters. They should only be given under very exceptional conditions, such as intolerance of other forms of stimulation, the presence of marked anæmia, or inability to take solid nourishment without them. Lemonade taken with red wines seems to make them lighter, more palatable, and more digestible.

MEDICAL TREATMENT.—This may be distinguished as follows: (1) general—that is, ordinary remedies directed to restore or maintain the general health; (2) sympathetic remedies; and (3) special or specific remedies.

1. *General Remedies*.—Drugs should never be employed in the treatment of disease except under the clearest indications, and this is especially true in phthisis, where the stomach should as much as possible be undisturbed and its powers be reserved for the imperative work of nutrition. It is, however, of the utmost importance that it should be in a condition to discharge its functions efficiently. If the tongue is coated, minute (one-twenty-fourth of a grain) repeated doses of calomel every ten minutes until one-third of a grain has been taken may be given every forenoon, followed by salicylate of soda in ten-grain doses, with tincture of nuxvomica and gentian mixture twice or thrice a day; and if there are hepatic complications, with or without constipation, compound tincture of rhubarb may be added in appropriate doses. If this does not succeed, chloride of ammonium in twenty-grain doses may be substituted for the salicylate.

Where the tongue is epitheliated or irritable and there is nausea, preparations of bismuth given in La Bourboule water are the appropriate remedies. If there is anorexia and the tongue is clean, small doses of solution of strychnia, dilute hydrochloric acid, and quinine, with tincture of orange, may be given—the digestive reaction being studied as to whether it is acid or alkaline.

2. *Symptomatic Remedies.*—Certain symptoms of phthisis, such as hæmoptysis, colliquative perspiration, and cough, are often so serious and violent in themselves, apart from the morbid processes of whose nature and intensity they are the result and measure, that unless controlled they not only interfere with the comfort of the patient and the tendency to resolution, but, especially in the case of hæmoptysis, often prove rapidly and suddenly fatal. The only symptom which I shall permit myself to speak of in this connection is that of cough, which is often so distressing and so injurious. To a certain extent this is physiological—nature's method of expelling the products of diseased action from the lungs. One of the best and simplest ways to enable it to discharge the function efficiently and with a minimum of disturbance is to use the respirator-inhaler which I introduced in 1876, and which I have continued to use up to the present. Charged with a few drops of mixture of chloroform as one part and of guaiacol as three parts, inspired as deeply as possible through the mouth and respired through the nose, and used as continuously as can be tolerated, it is most efficacious in facilitating the expectoration and reducing its amount. It accomplishes the former by increasing the depth, energy, and fullness of the act of respiration, and the latter by its direct antiseptic action. In the fœtid expectoration of basic excavations with narrow opening of discharge into the bronchus, and also in bronchiectasis, this method especially recommends itself.

3. *Special or Specific Remedies.*—Cod-liver oil and malt extracts are simply special foods directed to supplement nutrition, and do not properly figure in this category. Special or specific remedies are, strictly speaking, those which, recognizing the rôle of the specific micro-organism of tuberculosis, are directed to its extinction. Tuberculin is the only one which has yet established any distinct claims to be so considered, and I shall refer to its value subsequently. There are, however, two remedies which have, in recent years, deservedly come into favor in the treatment of phthisis, viz.: creasote and its distillate, guaiacol, and their carbonates. Of these, guaiacol is the one which I have employed almost exclusively for some years. I have already published my reasons for this preference, and described my experience with this remedy used hypodermically in acute pulmonary tuberculosis. In my hands it has given better and more certain results than any other remedy which I have employed in reducing temperature, and that without any violent perspiration or reaction of any kind. This result I insure by giving five minims of solution of strychnia combined in each dose, with from five to fifteen minims or more of pure guaiacol. I have the temperature taken at intervals, according to the intensity of the fever, of from three to six hours, and give the injection daily or even twice a day, if possible, before it begins to rise. If the thermometer registers a subnormal point, I give from five to fifteen grains of sulphate of quinine. This drug is not so much a febrifuge as an anti-

periodic. It is not so potent—indeed, it is often contra-indicated—during the hot stage of malarial fever; but it is most efficacious in the intervals in anticipating the return of the febrile stage. In acute phthisis it seems to prevent or moderate the reactionary rise of temperature from the minimum. Guaiacol, given hypodermically in this manner, is by far the most certain antipyretic with which I am acquainted. I cannot understand how, in the treatment of acute tuberculosis, the administration of guaiacol, and, still more, of that most repugnant and otherwise therapeutically objectionable drug, creasote, by the mouth should be so persisted in, when it so frequently irritates the mucous membrane and disturbs the functions of the stomach and bowels, and again when such large doses are necessary to produce any effect. When the hypodermic method has reduced the pyrexia, I suspend it for a time or permanently, and substitute from five to ten minims of guaiacol, sometimes adding, when markedly strumous indications are present, from five to fifteen minims of tincture of iodine in cod-liver oil three times a day; or, where that combination is not tolerated, I give the guaiacol either alone or with pure iodine in capsules. When, as occasionally happens, the temperature does not quickly respond to guaiacol injections alone, I give simultaneously, each time that the thermometer registers above normal, fifteen grains of salicylate of soda combined with five grains of antifebrin or phenacetin, or ten grains of antipyrin. If there is cyanosis and the pulse otherwise indicates cardiac debility, I add five grains of citrate of caffein. These combinations are best administered in cachets. I have seen great help obtained in cases of high pyrexia with great debility, by a diet almost entirely composed of milk with three drachms of whisky being given every two or three hours regularly for some days. It is not upon the temperature alone that guaiacol acts so efficaciously when it is used in this manner. It seems, also, to act directly and powerfully upon the pulmonary lesion itself, especially in reducing the expectoration and with it the cough, and in most cases it influences very favorably the general condition, patients declaring that “they feel better in themselves.” I use guaiacol hypodermically, also, in nearly all chronic cases when the destruction of lung is extensive and the amount of expectoration is large and does not lessen where the guaiacol has been given internally. I have found the carbonate of guaiacol very useful in cases complicated by diarrhoea and other irritable conditions of the bowels. The curative action of guaiacol applied locally in external tuberculous lesions, such as ulcerations in both skin and mucous membrane, is remarkable; and in such cases, of course, is less a matter of inference than of fact. Sir Philip Smyly, the distinguished Dublin physician, who first used guaiacol hypodermically at my instance, has on several occasions written to me describing his great success with this method of using guaiacol in cases both of surgical and of medical tuberculosis.

I may here refer to the endeavor to overcome such an acute and rapidly destructive phase of disease by what may appropriately be termed the expectant treatment, as carried out more or less completely at some of the sanatoria for tuberculous patients where it is professed that hygienic measures are alone employed. Such an exclusive method is to be deprecated in the strongest terms. It is a distinctly retrograde step in therapeutics. To keep the patient in the acute stage of tuberculosis continually in

bed for many months, waiting for the pyrexia to subside and trusting alone to rest, fresh air, and a general diet urged to more than repletion three or more times a day is unscientific, extravagant, and wasteful. It is, besides, totally unnecessary and inflicts an amount of mental and bodily suffering on the unfortunate patient which only those can realize who have passed through the ordeal.

CHRONIC PULMONARY TUBERCULOSIS.—The treatment of this phase of the disease need not detain us long. When the thermometric record has settled permanently at normal the acute stage has passed and we have now to deal with the chronic stage of the disease. The special remedies which have hitherto been employed to supplement or reinforce the hygienic means in the accomplishment of this result are no longer necessary. The treatment now indicated is mainly disciplinary and dietetic, and the environment now takes a more important part in the process of convalescence. The tendency of the arrested morbid process is towards repair and recovery, and now purely hygienic treatment assumes its proper rôle. To be efficacious this must be carried out systematically and in properly located and appropriately constructed sanatoria under efficient medical control and be carefully adapted to the idiosyncrasies and personal requirements of each patient individually. The great importance of this general hygienic treatment or—as it has been more correctly called—physical and dietetic treatment has met with tardy appreciation by the profession. Although the importance of general hygienic methods have long been recognized, their full value has only been demonstrated in hospitals or sanatoria where they have been systematically carried out under proper conditions. The hospital with which I have been so long connected was originally constructed and its site was chosen with the purpose of making hygienic methods a leading feature of treatment. Designed on the pavilion principle, each addition to the series has been constructed so as to meet the conditions which the successive advances in our knowledge have demanded. The time at my disposal on this occasion will not permit of my describing the several details, but reference to the general views in water-color, the ground plans, the elevations, and the photographs exhibited on the walls of the *foyer* of this splendid building (the Reichstag) will at once give a sufficiently clear and full idea of their object and extent. It is only necessary, in addition, to refer to the steam-driven mechanism which works in connection with the natural ventilation. By means of this system, which does not supplant, but only supplements, a constant extraction of used air is accomplished at a minimum rate of 5000 cubic feet per hour per patient from every room when in occupation. The patients spend as much of their time as is possible in the open air under suitable shelter or in appropriate exercise. The windows of sitting-rooms and bedrooms are kept open night and day. The bedrooms all face the south, and they open on broad verandas by large French windows. Each bed has its head to the wall and is placed between the windows, and the opposite door is louvered or swiveled to permit of free circulation of air and opens onto a large, airy corridor which is thoroughly lighted. There is no heating apparatus in the bedrooms, which are warmed from the corridors with fresh air drawn directly from the outside over steam-heated coils. We have latterly adopted 55° F. as our standard indoor temperature.

The rational therapeutic system carried out at Ventnor may be thus summarized: 1. The diet, into which milk largely enters, is ample, simple, and yet varied, and is adapted to the general condition of the patient and the stage of the disease. It is arranged into convalescent, special, and pyrexial varieties, but in every detail is modified according to the exigencies of each case. 2. Rest and exercise are carried out on the principles generally recognized. 3. The freest exposure to the open air of all the patients which is possible, pyrexial patients being carried on their beds or couches onto the veranda on which their rooms open, and the supplementing of the natural ventilation of the rooms by mechanical means while in occupation. 4. The scientific treatment of symptoms by remedies directed as much as possible to the diseased processes within the body in which they originate. 5. The reinforcement of the purely medical supervision of the patients by a body of specially trained nurses. 6. The appreciation at their true value of the accessory conditions of climate, site, elevation, shelter or exposure, rainfall, sunshine, and nature, and the relations of soil to water. Did time permit, I should like to compare in detail as regards time, cost, and results the rational system of treatment carried out by me at Ventnor, such as I have sketched, with the purely hygienic or expectant treatment, as I have termed it, which has attained its extreme development at Nordrach, but I have already done so elsewhere.

I have already referred to the claim of Koch's tuberculin to be the only specific remedy in tuberculosis, and here in Berlin itself I do not hesitate to state my belief that the reaction of professional opinion against Koch's tuberculin is as unwarranted as its too sanguine and hasty announcement was unwise. In the cases in which I have carried out this treatment it has given most satisfactory and encouraging results. The ten cases treated in the hospital at Ventnor were examined by Sir Hermann Weber and other eminent specialists. I attribute my success to the circumstance that I regarded the tuberculin as a highly concentrated anti-toxin, and diluted it sufficiently to give doses small enough to avoid the excessive reactions which I recognized as essentially destructive in character. I confidently believe that if a perfectly pure tuberculin of equal strength and in sufficiently diluted form could be supplied, and used with the precaution which I have just indicated, the results would go far to justify the original anticipations of its success.

A Strychnine-like Alkaloid Obtained from a Corpse (Mecke and Wimmer, *Pharm. Zeit.*, xliii., 300, 301, through *Chem. Soc. Journ.*, April, 1899, 311).—The alkaloid obtained forms white nodular crystals, its hydrochloride feathery tufts. It reacts like strychnine with picric acid, potassium dichromate, sulphuric and nitric acids, tannin, potassium ferri cyanide, potassium thiocyanate, and after evaporating with chlorine-water it gives a dirty green with ammonia. With Fröhde's reagent it yields first a dirty violet, then an olive, and finally a green color; with sulphuric acid a yellow, which changes to cherry-red, and then to rose; with Erdmann's reagent, a yellow color. It is only slightly bitter to the taste, and has no physiological action on frogs.

RAPID TREATMENT OF VARICOSE ULCERS OF THE LEG.

By WM. D. H. BROWN, M. D., of Chicago,

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MY OBJECT in writing this paper is to call attention to the good and rapid effect of this method of treatment in chronic ulcers. There are few of us in practice who do not, now and then, come across intractable varicose ulcers, and the question now among many is: How far is it right to heal up an old chronic sore of this kind? This question has not yet been decided by many of the older surgeons, who claim they have met cases of apoplexy or other alarming symptoms supervening the healing of the sore; but modern surgeons are disposed to look upon the practice as beneficial that removes any conditions, either local or general, and gets down to its first cause. The proper diet, abstemious living and the use of salines will soon obviate the effect of checking the wasting discharge: absolute rest, in many cases, seems out of the question, and we must do the best at our disposal if rest cannot be secured.

CASE 1.—Fred A. D., salesman, twenty-five years of age, single.

Previous History.—Quite a smoker; has never used alcohol to excess; beer once, twice or three times daily; coffee quite freely.

Family History.—Scrofulous diathesis, mother suffered from severe eczema; father died of peritonitis following a severe attack of dyspepsia.

With this patient it was impossible to rest. He came to me with a large sloughing varicose ulcer, about the size of a silver dollar, on the anterior surface of the right leg. He had seen several physicians, who had failed to give him any relief. One suggested that ligation of the veins of the leg was the only means of cure; another that there was no other way than that, and he should be laid up quite a while. Still another physician bandaged the leg with cotton bandage, and left him two days in the bandage, tightly put up. In this condition he was referred to me, suffering great pain and the leg quite black from the knee down, the ulcer of a congested, bluish-red color and very angry. I at once suggested to him that he had better rest it; but rest being out of the question, I must do the best I could. First, I noticed the venous system all over the body was in a weakened condition and tried to get at the cause.

Treatment.—December 15th, galvanism first used to change the condition of the sore; resinol and carbolic dressing and moderate diet, especially avoidance of coffee.

January 10th, ulcer somewhat improved, but improvement not satisfactory until I began the use of antinosine and nosophen, when a marked change was perceptible—less oozing, better granulation, less pain. I used antinosine, fifty per cent. solution, instead of the powder, to which it is preferable; then sore was dusted with nosophen powder, nosophen salve, and then, finally, nosophen gauze and elastic stocking applied.

February 15th, sore had become one-half its original size; healthy granulating edges.

March 15th, sore smaller in size than a ten-cent piece.

March 30th, sore almost completely healed up.

April 10th, completely closed over; patient had no further trouble, and has not since.

CASE 2.—Mrs. N., boarding-house keeper, age fifty, widow; came under my treatment for varicose ulcer October 5th.

Family History.—Good, but mother suffered some from varicose veins after first child was born.

Previous History.—Had worked hard to keep things going for a drunken husband and support a family of children; began to realize she was too much on her feet; was overtired all the time, when veins began to swell and pain her constantly; finally the skin broke and an ulcer of an eczematous character appeared. Leg was hot, painful, red and hard, with hard crusts around the sore.

Treatment.—October 5th, first tried zinc preparations, ichthyol and bismuth, with dressing of carbolated gauze.

October 10th, no improvement perceptible.

November 20th, some slight improvement.

December 1st, improvement slow, not satisfactory; gave up all former remedies and commenced antinosine and nosophen, when decided improvement was noticeable—less pain, less oozing, sore looks healthy, granulating rapidly.

January 10th, sore about healed, kept on until perfectly healed; no drawbacks.

CASE 3.—Mrs. B., aged fifty-two, widow, began treatment August 1st.

Family History.—Fairly good.

Previous History.—Mother of eleven children, several in succession, when varicose veins showed very markedly during last confinement, followed by pain, heat and redness, finally leading to a large ulcer.

Present History.—Varicose ulcer of left leg and ankle for past two years. Various remedies had been used and some improvement, but never came near healing. Got bad again when she came under my care, and veins of leg were much dilated. Ulcer was the size of a silver dollar and very deep, oozing considerably, and painful.

Treatment.—Used galvanism, antinosine and nosophen; first dusted on the antinosine, but, as in the first case, found it preferable in strong solution. Improvement shown the first week. Sore much soothed, lessening of redness and pain. Improvement continued for some time very satisfactory; more rapid when elastic stocking was used after the dressing. Improvement continued until sore was entirely healed. Has remained in good condition since.

CASE 4.—Charles L., clerk, aged forty, commenced treatment September 15th; moderate smoker, and drank very little.

Family History.—Fairly good; some appearance of scrofula.

Previous History.—Complained of pain and very tired feeling in limbs; some constipation and indigestion. Right limb gradually got more painful, until ten months ago an abrasion appeared, spreading until it was the size of a silver dollar.

Examination revealed a deep, defined ulcer of the leg, with irregular contour, greenish base, bad odor, very painful in walking about.

October 1st, showed no signs of ulcer improving under treatment, but considerable pain on putting down the leg, so that one month of continuous rest had to be enjoined.

Treatment.—Began the use of galvanism, antinosine and nosophen.

November 1st, sore much improved; odor hardly perceptible: of a more normal hue, and considerably filled in with healthy granulation; lessened in size and less oozing.

December 1st, sore about the size of a quarter of a dollar and almost filled up; appearance very healthy.

January 1st, almost healed; size about that of a dime.

February 10th, entirely healed.

The records of the foregoing cases suffice to show the cases were of long standing and all of different ages; and the noteworthy fact is that no remedies used seemed to show the continuous and rapid improvement following antinosine and nosophen, though so many remedies had been used.

Such cases always get discouraged at the slow improvement in their condition; and more than that, before the use of antinosine and nosophen, not only remaining in "*statu quo*," but sometimes a relapse into the former condition.

In all the varicose cases the stocking was found of great assistance. Strapping with plaster, as I have seen in cases, is not only of no benefit, but rather otherwise.

With several cases on hand, two especially, it was surprising to note the rapid improvement, even though complete rest was out of the question.

In all the cases the remedies, antinosine and nosophen, were submitted to a crucial test and found anything but wanting, supplying the bill in every case.

I also found in all cases that the solution of antinosine produced the best results, following after with powdered nosophen and nosophen gauze, and, if sore got too dry and hard, nosophen made into a salve was applied. Found no toxic effect whatever and perfect freedom from irritation; effect rather quite soothing, acting as a good sedative.

So that properties of both agents are just what is required for such chronic ulcers, and are possessed by few, if any, that are found in the whole realm of *materia medica*.

Callous Ulcers.—In the treatment of callous ulcers, a blister applied over the thickened tissues around the ulcer is one of the most rapid methods by which the disappearance of the exuded materials can be brought about.—DR. C. W. CHEYNE.

HISTORICAL SKETCH.

SCHOLASTICS AND MYSTICS.

By JAMES MOORES BALL, M. D., of St. Louis.

[CONTINUED FROM MAY ISSUE.]

PARACELSUS, 1493-1541.

No character in medical history produced more strife during his lifetime or more controversy after his death than Paracelsus. His admirers speak of him as the "Reformer of Medicine," while others regard him as the greatest quack of all the ages. Historians, philosophers, biographers and poets have attempted to portray his character, and have left the reader in doubt as to the status of this celebrated individual. To appreciate his worth it is necessary to view him through sixteenth century lenses. Van Helmont spoke of him as "the forerunner of true medicine, God-sent and armed with knowledge to decompose bodies by fire, and his excellent cures put all Germany into commotion." On the other hand, Timmermann said of him: "He lived like a hog, looked like a carter, found his chief pleasure in the society of the lowest and most debauched of the rabble, was drunk the greatest part of his life, and seemed to have composed all he wrote in this condition."

In the latter part of the fifteenth century a certain physician by the name of Wilhelm Bombast von Hohenheim lived in the village of Einsiedeln near Zürich in Switzerland. He was descended from an old and celebrated family.¹ He married the lady superintendent of the hospital attached to the convent in the village. From this union there came the child who was to become the famous Paracelsus. The name given to the child was this: Phillipus Aureolus Theophrastus Paracelsus Bombastus von Hohenheim. The father of Paracelsus in 1502 removed to Villach, in Carinthia, where he died in 1534. Long before this event his son had set the medical world awry. Young Paracelsus studied in the university of Basel, but soon gave up the university to learn from the celebrated alchemists, John Trithemius and Sigismond Fugger. About this time Paracelsus became a traveler and visited the greater portion of Europe, stopping at each great university and receiving his medical degree from one of them. On these journeys he visited Spain, Portugal, Prussia, Poland, Transylvania, Hungary, Denmark, Sweden, Russia, and Turkey. It must not be supposed that Paracelsus passed all of his time lounging about the universities. Far from it. He delighted to learn from the common people, and listened to the tales of old women, Jews, gypsies, tramps, and shepherds. From them he learned many of nature's secrets unknown to the university professors. From these wanderings Paracelsus came to look with disdain upon the teachings of the regular authorities, and regarded books with contempt. "Reading," said he, "never made a doctor, but practice is what forms a physician. For all reading is a

¹ Locher: Theophrastus Paracelsus Bombastus von Hohenheim der Luther der Medicin, p. 17. Zürich,

footstool to practice, and a mere feather broom. He who meditates discovers something." Often Paracelsus was seen in the company of the rabble, drinking with them and singing their songs. Habits of dissipation grew on him, but this was an age of drunkenness and debauchery. After an absence of ten years, at the age of thirty-two, Paracelsus suddenly appeared in Germany and astonished the whole land with his remarkable cures. No man ever had more eminent personages for patients. Paracelsus in his thirty-third year could boast of having cured thirteen princes



Paracelsus.

whose cases had been given over by the Galenic doctors of the time. He cured Froeben, the great printer of Basel, of the gout by using laudanum. Erasmus, having consulted the great physician, wrote him, saying: "There is nothing inappropriate in wishing mental happiness to the physician by whom the Lord restores us to bodily health. I am surprised at your knowing my case so well after having seen me only once." In the same letter the theologian speaks of his friend the publisher: "You recalled Frobenius from the shades of death." Œcolampadius, one of the enthusiastic leaders of the Reformation, believed in Paracelsus and caused him to be appointed professor of physic and surgery in the University of Basel in the year 1527.

Basel, at this time, was not an ordinary town. The founding of the university in 1460 and the admission of the city into the Swiss Confederacy in 1501, combined with the freedom from persecution which reformers here enjoyed, led to the upbuilding of a society which was learned and cultured. Here Erasmus and Œcolampadius were living, and here came Paracelsus to try to cause in medicine as great a revolution as the reformers had made in matters of religion. Here, on the fifth of June, in 1527, Paracelsus announced by a short Latin program that he intended to elucidate his own writings on medicine, surgery and physic, and to lecture on the cure of disease without regard to the views of accepted authors. To the astonishment of the medical profession, Paracelsus delivered his lectures in the German language. This unheard-of innovation caused the greatest sensation. It was surpassed, however, when the lecturer publicly burned the books of Galen and Avicenna, saying that they did not contain as much knowledge as his shoe latches! "A physician," said Paracelsus, "must be a traveler. Diseases wander hither and thither, worldwide, and remain not stationary at one place. If a man wishes to learn much of disease, let him travel far; if he do so, he will acquire great experience. Countries are the leaves of Nature's code of law, patients the only books of the true physician. Reading never made a physician—only practice."

A wonderful spectacle was this. For centuries the world had worshipped blindly at the shrines of Galen, Œtius, Oribasius, Rhazes, Avicenna, and Averroës. "Away with them!" cried Paracelsus. The empty benches of the university of Basel were soon crowded with anxious listeners. The pall had long been lifted from literature, and now science was to be uncovered. It was a courageous act for the reformer to pit himself against the whole profession of his time. Destroying the sacred books of medicine, he declared that these have been blind guides, and bade his hearers follow him to the land of truth. Though every man's hand be against him, he will not fail to lead them.

However, the priests and doctors succeeded in driving Paracelsus from Basel. The medical profession was not looking for reformers.

During his stay in Basel, Paracelsus was often inebriated. Indeed, his secretary, Oporinus, states that for two years the reformer was drunk every day, never undressed himself, and went to bed with his famous sword by his side, which he would often draw and flourish to the great alarm of the secretary. The sword became an attribute of Paracelsus and was mentioned by Hudibras:

"Bombastes kept a devil's bird,
Shut in the pummel of his sword,
That taught him all the cunning pranks
Of past and future mountebanks."

Expelled from Basel, Paracelsus again became a wanderer. The last days of his life were passed in a cell in a hospital in Salzburg where he died in 1541. His epitaph states: "Here lies Phillippus Paracelsus, the famous doctor of medicine, who, by his wonderful art, cured bad wounds, lepra, gout, dropsy, and other incurable diseases, and, to his own honor,

divided his possessions among the poor." Recent investigations show that he was murdered at the instigation of jealous rivals.

Unfortunately for Paracelsus, his claims as a reformer rest on sand. A master of invective, he abused the Galenic doctors and tried to supplant their doctrines with his own crazy notions. Here is his abuse of Galen: "He cannot boast of a single experiment, but learnt everything from others. He opposes nature in all, and is, therefore, a liar who can do nothing but collect pearls and turn them into pebbles; wherefore he is in the lowest hell, whither his disciples will follow him." This of the great Galen who, although making many blunders, had given the medical world many of its greatest truths! Bombastes respected only Apollo, Machaon, and Hippocrates among the ancients. His conception of "true and divine medicine" rests upon four "pillars" which are as firm as a rock. These pillars are: philosophy, astronomy, alchemy, and virtue of the physician. Of the first he said: "Philosophy is the gate of medicine, and they who go not in thereat climb in by the roof and become thieves and murderers." It was not the philosophy of Aristotle that Paracelsus had in mind, but the whole circle of physical, and particularly magical, sciences. His "anatomy" was not the dissection of bodies which is done by "Italian jugglers," but "the anatomy of the essence"—an imaginary analysis of man into mystical ingredients, salt, sulphur and mercury. His "anatomy" reads like the ravings of a madman. Thus he describes the eyes and divides the consideration of their anatomy into the *substance*, the *material*, and the *form*, of which the substance is from without, the material from within, and the form in both:

"1. SUBSTANTIA.—The eyes are twins; that is, two fruits, or products, joined in the form of a cross, with reference to a center, in order that they may have, as nearly as may be, the same integral composition. They are united in the middle, and thence look downward with the stem, and upward with the root. These trunks give off no branches, but only fruit; that is, they produce a blossom which is the material, and bear fruit which is the sight. The flower is white, the fruit is purple, and each of them has a bark, which forms the tunics. The wood is what intervenes between the tunics and the root. In the pith is situated the sight; that is, the substance of the eye.

"2. MATERIA.—The material consists of three things: namely, sulphur, salt, and mercury." (According to Paracelsus, these three were the ingredients of every thing.) "Sulphur is the flower and fruit, in all colors, according to the mode of resolution, outside the visual body. The visual body is Mercurius, in which is contained the perfected sight, without any other material. Salt is the solidification of both, since it reduces the parts into one form; that is, it completes the essence of the visual body,

"3. FORMA.—The form is that of a cross, because the central part bears twins. Afterward, each twin passes into its own form, or rotundity, since the eyes in the body fill the place of the sun, as in a microcosm."¹

Astronomy is the second pillar of Paracelsian medicine. "No one can be a good physician who is not skilled in astronomy."

Alchemy is the third pillar. "Without a perfect knowledge of alchemy, the physician will use all the resources of his art in vain." The great use of alchemy in medicine is to separate the quintessences of drugs.

¹ Dalton: Galen and Paracelsus, p. 23. New York, 1873.

"Take it not amiss," he said, "that the alchemy I teach yields neither gold nor silver; but look upon it as the key which opens the arcana of medicine to you." "What is alchemy? A preparer of medicines, a purifier of medicines, giving them perfect and entire, so that the physician may fully accomplish his art." "The third pillar of medicine is alchemy; not that alchemy which makes gold and silver (for these blockheads swarm in all countries), but the alchemy which instructs us how to separate each mysterium into its own reservaculum."

Virtue of the physician is the fourth pillar, for only the virtuous are permitted to understand the innermost secrets of man and nature.

Paracelsus viewed man as a microcosm: "There is nothing in heaven or earth which is not in man; and God, who is in heaven, is also in man." Disease is caused by the action of various constituents of the universe upon man. He mentions five "Beings" (*Entia*) which cause all diseases, and each of these can cause any disease. "When a physician, therefore, finds himself in the presence of a paralytic he must, before all things, discover which 'Ens' has produced the paralysis." The *Entia* are: *Ens Astrorum* (influence of the stars); *Ens Veneni* (poison); *Ens Naturale* (disturbances arising within the body); *Ens Spirituale* (spiritual agencies); and *Ens Dei* (direct action of God who sends diseases as punishments). The first four *Entia* affect only Turks, Saracens, and other infidels.

There is much more to the so-called "system" of Paracelsus. Disease is caused by changes in the three mystic elements—salt, sulphur, and mercury. In health these are so mingled that they cannot be separated; but when separate, sickness is caused, and if completely separated death results. "What burns is sulphur, what smokes or sublimates is mercury, the ashes are salt." "Distilled 'mercury' produces paralysis, precipitated gout, sublimated mania."¹ I do not consider it necessary to consider the Paracelsian pathology at length. Those who are interested in the subject will probably find that it has neither beginning nor end.

Withington considers that the modern admirers of Paracelsus belong to two classes: "German medical historians, in search of some one to rival the fame of Harvey and the great French and Italian surgeons and anatomists; and theosophists anxious to show what benefits have been bestowed on mankind by the great adepts or Mahatmas. They have raised an imposing monument to their hero on somewhat slight foundations. Does Paracelsus abuse Galen and Avicenna? He is the reformer of medicine! Does he say that air is contained in water? He is the immortal discoverer of hydrogen! Did he call one of his secret nostrums 'laudanum'? 'He bestowed on mankind the inestimable gift of opium!'"² The historians, indeed, admit that if he wrote all the absurdities attributed to him, he cannot be the reformer of medicine, the German Harvey; and they attempt to show that most of his works are spurious, and written by crack-brained pupils, or even by his enemies to bring him into ridicule. But it is just these works which excite the admiration of our modern mystics. Paracelsus, say they, in his leisure moments, doubtless reformed medicine, discovered hydrogen, and invented laudanum; but it is in what you call absurdities that we recognize the language of the great adept, the friend of the Khan of Tartary, who conversed with esoteric Buddhists on the northern slopes of the Himalaya."

[TO BE CONTINUED.]

¹ Withington: *Medical History from the Earliest Times*, p. 258. London, 1894.

² *Ibid.*, p. 259.

NEW YORK LETTER.

The University and Bellevue Hospital Medical College annual commencement exercises were held at the Metropolitan Opera House, May 16th, at which time over one hundred and sixty young men received their degrees of Doctor of Medicine. The address to the graduates was given by Rev. David James Burrill, of the Marble Collegiate Church. He made three points: First, know something; second, don't know everything; third, use what you know. The speaker roundly scored the Christian Scientists. Any one with his eyes open to the pain and suffering on every hand could not question the terrible reality of pain. A man must know something and be sure of it. He must believe something; better be an atheist than an agnostic. It does not make much difference whether a man believes a great deal, but it makes a great deal of difference when he believes something. Always be willing to learn. There are 60,000 doctors in the United States, each one of whom could give "pointers" to each member of the graduating class. The reverend doctor advised the medical profession to learn from the clergy how sweet it was to dwell together in unity. He related the story of a theological professor who told his students that three things were necessary to the success of the clergyman: First, he must have wisdom; that the faculty could give him. Second, he must have grace; that God would give him. Third, he must have common sense, and neither the faculty nor God could give him that; and God Almighty have mercy on him if he didn't have it. The speaker concluded his address by reminding the young men of the responsibilities both to God and man in virtue of their position, and welcomed them as fellow-workers with the clerical profession "each for the other and all for God."

It is worthy of note that Dr. Louis A. Sayre, who has received such recognition abroad, not equaled by any other American, appeared with the faculty on the stage, coming in supported by his son, Reginald. This dear old man will not appear often in public, he now being nearly eighty years of age. It is interesting to note that although so very old he has only celebrated nineteen birthdays. This is accounted for by the fact that he was born on the 29th day of February, 1820.

A Case of Nasal Hydrorrhœa.—At the last meeting of the Laryngological and Rhinological Section of the Academy of Medicine, Dr. W. Freudenthal presented a woman, aged twenty-nine, who has been married eleven years, during which time she has been extremely nervous. For the last five years she has had to sneeze a good deal every morning and immediately after her nose commenced to run. It drops constantly for several hours. The discharge was a watery, sero-mucous one, and a four-ounce bottle was repeatedly filled, taking about two hours to fill it once. It is a case of nasal hydrorrhœa of purely nervous origin. She has also had a gastro-enterorrhœa chronica, and the neurotic element is here the underlying factor. Doctor Freudenthal mentioned the case of a gentleman who suffered greatly from insomnia. He was operated upon by the Asch method for a deviated septum. The operation was done in the afternoon, and at

eleven o'clock he was called to the patient, as his nose was running freely. He sat up bent over a cuspidor and his nose was discharging freely. The next morning the tube was gone and he was in bad condition. When the doctor wanted to collect some of the fluid for examination he stopped discharging, and he never had it again.

Claim of Priority of Case of Laparotomy.—In the *Independent Republican*, published in Goshen, Orange county, New York, appears, under the caption, "A Brief Retrospect—Happenings in Orange County Forty Years Ago this Week," the following: "In the course of an altercation Walter Van Tiser disembowels John Brewster in Goshen. Doctor Thompson replaces the intestines, sews up the wound and starts Brewster on the road to recovery." Under date of May 11, 1899, Dr. John H. Thompson, of Goshen, New York, writes your correspondent as follows: "Along with this letter I mail you a copy of the *Independent Republican* of the 5th inst. I have marked an item of occurrence of forty years ago: Incident to the mention of that occurrence, I make claim of priority of case of laparotomy in my practice. I have to add to the facts mentioned that the patient recovered reasonably quick from the accident, considering that it was before the period of discovery of antiseptics, and when wounds were expected to be attended with greater or less suppuration in the healing process. As an evidence of the fact of the patient's perfect and complete recovery from the lesion in question, I have to state that the negro who was the subject of it was deemed eligible for the military service, and enlisted and served in the 14th R. I. Heavy Artillery in the war of the rebellion. Let me say that the incision sustained was in the lower portion of the abdomen, say six inches in length, permitting the ready escape of the entire intestinal contents of the abdominal cavity. This interesting circumstance is to be noted in connection with this disemboweling: the happening was in the bark mill connected with a tannery, and in the escape of the intestines on the occasion of cutting they became soiled with tan-bark, which fact added, of course, to the gravity of the case." In how far his claim to priority is justifiable, your readers may decide.

Good advice in case of fire was recently published in one of the New York medical journals. Keep in your nursery bedrooms one or two strong sacks about three and a half feet in depth and one and one-half in diameter, held open at the top by a thick wooden hoop, and having a very long, strong rope attached. In case of fire the children may be let down in safety.

New York theater play-bills contain the following notice: "Physicians who have patients to whom they may be called suddenly, and who have heretofore remained away from the theater for fear of being out of call in such cases, can now leave their seat numbers in the box office and be called as quickly as in their office. Ushers will deliver messages promptly to them upon receipt of same over the telephone." Truly a good plan.

David Copperfield contains much that is good; but amongst it is one that appealed to your correspondent, which is as follows: "My advice you know. Annual income, £20; annual expenditure, £19 19s. 6d. Result—

Happiness. Annual income, £20; annual expenditure, £20 and 6d. Result—Misery.”

Public Aid to Private Charities.—A comprehensive and carefully prepared statement of the appropriations made by the city of New York from various funds to the private societies and institutions engaged in charitable and reformatory work has just been presented, and is the first that has been presented for the Greater New York. It only foots up to \$3,251,-802.84. A neat sum.

The American Climatological Association, under the presidency of Dr. Beverly Robinson, held an interesting meeting lately. On May 11th the Ontario and Western Railroad made up a special train for the members and their friends and carried them to Liberty, New York, about one hundred and twenty miles up into the Adirondacks, to Loomis' sanatorium, where we were entertained in a most satisfactory manner. The dinner was a howling success, especially to some. The champagne left on the table made tears come to many eyes. The trip was one that will be held in kind remembrance by all who attended for many years to come. The sanatorium is situated two miles west of Liberty, on hills overlooking forty miles of landscape. During the past year two hundred and four patients have been admitted, and there have been but four deaths, which is most hopeful and encouraging.

The first gastrotomy ever performed on a horse was recently done by a veterinary surgeon in East New York. The stomach was opened in order to effect the removal of a silver watch and some coins which had accidentally fallen from a stableman's pocket into the animal's manger, and were swallowed with its fodder. The operation was entirely successful, and it was recorded that the watch continued to go for one hour after being swallowed.

E. FRANKLIN SMITH, M. D.

New Labels and Methods in Vocation.—In the late Tuberculosis Congress it was stated that infected cattle and swine have only a localized form of the germs of tuberculosis. In these animals have the habit of congregating only in certain parts of the body—in a lymphatic of the hog. Likewise the germs in cattle are localized. Again, according to Virchow, the tuberculin test for infected cattle is almost infallible. Hence, that butcher who will announce that he slaughters hogs by removing affected gland and that he has applied tuberculin test and found no tuberculosis in cattle, can easily command the trade.

MEDICAL NOTES.

The Tuberculosis Problem in the United States.—This problem is dealt with by Dr. S. A. Knopf in a recent number of the *North American Review*. That the problem is one which urgently calls for solution is evident from his estimate that of the seventy million people now living in the United States, ten million will die of tuberculosis unless something is done to prevent such a consummation. He states that one of the best American authorities on the subject, Dr. F. W. Smith, of the Tuberculosis Committee of the State Board of Health of New York, has expressed the opinion that the first great step towards the prevention of tuberculosis in man should be to stamp out the disease in cattle. Many of the most distinguished American physicians and sanitarians who have studied the question hold the same belief. But the suppression of tuberculosis in cattle is still a "far cry" in the United States, as appears from the following facts, which we give on the authority of Dr. Knopf: There are fourteen States which have laws and regulations with regard to cattle, and in which circulars are issued for public instruction in regard to tuberculosis in man. These are California, Colorado, Connecticut, Iowa, Maine, Massachusetts, Michigan, New Jersey, New Hampshire, New York, Pennsylvania, Rhode Island, Virginia, and Wisconsin. There are two, to-wit, Minnesota and South Dakota, where there are bovine laws, but where apparently nothing is done to stop the spread of tuberculosis in man. One (Tennessee) which has bovine laws which it cannot enforce for want of funds, and where, so far, the board has only issued circulars on the prevention of tuberculosis in man and beast; two (the District of Columbia and Oklahoma Territory) which have a law prohibiting the sale of tuberculous milk, but do nothing else for the prevention of tuberculosis in man or beast; and eight, to-wit, Delaware, Indiana, Kentucky, Louisiana, New Mexico Territory, Ohio, Texas, and West Virginia, which issue circulars concerning tuberculosis in man, but do nothing in regard to beasts. There are nine States, namely, Alabama, Arkansas, Illinois, Kansas, Maryland, Mississippi, North Carolina, North Dakota, and South Carolina, where nothing is done for the prevention of tuberculosis. There are seven, namely, Georgia, Idaho, Montana, Nebraska, Oregon, Utah, and Wyoming, which have no board of health. Lastly, five States (Florida, Missouri, Nevada, Vermont, and Washington) deigned no reply to Dr. Knopf's inquiries. To letters addressed to the health officers of forty of the largest cities of the States he received twenty-nine answers; in one-third of these it was stated that nothing at all had been done in the matter of the prophylaxis of tuberculosis. These facts show that as a nation our cousins across the Atlantic are no better protected against tuberculosis than ourselves. Dr. Knopf calls upon the United States government to take into its own hands the task of stopping the spread of tuberculosis through the bovine race. The Board of Health of New York has endeavored to enforce the registration of all tuberculous cases, but the great majority of the medical profession has opposed any attempt in that direction as untimely. The solution of the problem proposed by Dr. Knopf is

that "the whole matter of preventing the spread of tuberculosis must forever be educational work on the one hand and on the other the work of the State and municipal authorities." If any government, he says, is in earnest in its endeavors to combat tuberculosis effectually, besides its regularly enforced laws against tuberculosis in man, through sanitary regulations and public instruction, it must take upon itself the care and treatment of the curable and incurable cases of tuberculosis among the poor and those of limited means.—*Lancet*.

Infantile Tuberculosis.—Lyder Nicolaysen (*Norsk. Mag. for Lægevidensk.*, No. 10, October, 1898) finds that out of 4186 children examined 8.3 per cent. were found clinically to be tuberculous. Of 184 tuberculous children treated in the Polyclinic 38.5 per cent. were scrofulous, 25.5 per cent. had osseous and articular tuberculosis, 25.5 per cent. had pulmonary phthisis, 7.6 per cent. peritonitis, and 2 per cent. meningitis. Of 83 tuberculous children treated in the pædiatric service 39.7 per cent. had osseous and articular tuberculosis, 7.7 phthisis pulmonalis, 24 per cent. were scrofulous, 4.7 per cent. suffered from peritonitis, and 3.6 per cent. from meningitis. Nicolaysen concludes that infantile tuberculosis is characterized by a special localization in the glands and by the frequency of osseous and articular tuberculosis and of cases of meningitis.

To overcome the anæmia so often associated in this class of cases, I have found the solution of bromide of gold and arsenic to be among the most serviceable drugs at our disposal; beginning with five-drop doses in a glass of water after meals and increasing one drop daily until from fifteen to twenty drops are taken. The red blood corpuscles and the percentage of hæmoglobin are rapidly increased with the use of this drug. Occasionally, however, we do find a patient with whom it disagrees, when we must resort to other remedies. The gold solution has also a decided effect on the inflammatory conditions of ovaries. This was pointed out by an author in a European journal ten or twelve years ago, and has been employed during that period by me. Since the introduction of Dr. Barclay's solution, which is a combination with arsenic, it has been used with better effect than the chloride of gold and sodium in pill form. Barclay gave the name *arsenauro* to his solution for the sake of brevity.—H. J. BOLDT, M. D., of New York.

What Shall be Done with the Consumptive?—One of the most vital questions that has ever been presented for settlement, not only to the medical profession, but to health authorities as well, is: What shall be done with the consumptive? An energetic move is being made in all civilized countries to stamp out this most formidable of all diseases. During the past month an international congress has been held in Berlin to consider this question; but recently a meeting was held in England, over which the Prince of Wales presided, to consider the same question; in France an active part is being taken; and indeed every nation is bending its energy to suppress the disease. In this country some of the State boards of health have succeeded in getting municipal or State aid in the way of enacting laws looking to the eradication of tuberculosis, and much is being

done to educate the common people to the importance of hygienic environment and protection against this awful malady which lays its blighting hand upon one in every fifty persons. All this is very proper and correct; but in the mad effort to protect ourselves we should not forget the poor dejected but innocent victim. It would appear from the tone of many articles written on the subject that to have tuberculosis is a stigma and a crime, and that the culprit must be subjected to all manner of indecencies and cruel treatment. It is proposed that such an unfortunate patient must be ostracized from society, isolated from even his loved ones, and evaded as one who has the leprosy. It is also proposed that whenever it is necessary to move him a special *hospital* car must convey him over the railroads; that contact with him is dangerous, and that he must be forbidden to sit down at the feast. This is all too radical, and by the adoption of many of the suggestions now being made, the very object of them will be thwarted. It will be easy, very easy, to fall from the sublime to the ridiculous in this matter.

Above all things, let common sense prevail where it should do so, and let those in authority be sure they are right before they adopt any foolish suggestions. If this unfortunate class is to be driven from their comfortable homes, away from all those whom they love and depend upon, let an effort at least be made to send them somewhere where a return to health can with some degree of certainty be expected. It has been demonstrated both in Europe and in this country that the hospitalization idea is the correct one for the treatment of the consumptive. Let, then, each State provide an institution specially fitted for the treatment of such cases, and let the government donate reservations where the poor as well as the rich can go for treatment. This foolish idea of sending a patient nearly at death's door with the disease to Colorado, California, or to some sea-port hundreds of miles away, should be stopped. What these people need is the comforts of home in a hospital where they can be properly treated. The plan has been tried, and the result has been that many have been cured and many more benefited. The trouble in the past has been that as soon as a diagnosis was made the patient was sent adrift to take care of himself. Let the consumptive be treated according to modern elucidation in specially erected hospitals, and much will be done to eradicate the disease. It is not necessary, either, that climate should be an absolute necessity, for it is within our power to create most any climate desired in any modern hospital. It is not necessary to drag these patients thousands of miles from their homes, for they can be treated equally as well in a hospital of the kind described wherever erected. Let the medical profession take the interest sufficient to call the attention of all those in authority, and we will soon see a solution to the question, "What shall be done with the consumptive?"—*The Louisville Journal of Surgery and Medicine*.

Tubercle of the Testicle in Childhood.—The *Journal de Clinique et de Thérapeutique Infantiles* of May 4th contains a report of M. Felizet's observations on fifty-eight cases of tubercle of the testicle in childhood. From these it appears that the disease almost invariably attacks this organ in children under seven years of age. As in adults, the epididymis is by far its most usual place of origin, the cord is less often invaded, the pros-

tate, the vesiculæ seminales, and the bladder still less frequently. Hydrocele is rarely present, and the course of the disease, as might be expected in tissues which are virtually embryonic, is often rapid, infection proceeding not only by the spermatic blood vessels, but by the inguino-iliac lymphatics also. M. Felizet is not an uncompromising advocate for castration as a remedy, but is disposed up to a certain point to rely on hygienic and medicinal measures. Even when there is adhesion of the testicle to the scrotum and subsequent abscess formation, he is content to employ local conservative methods. When, however, in addition to suppuration there are present the signs of general impairment of health, he advocates immediate removal of the gland as the only means of preventing a very rapidly fatal form of general tuberculosis. Unfortunately, we are not informed of the results obtained by treatment in these fifty-eight cases. If they should hereafter be forthcoming, they ought materially to aid a decision as to the true indications for castration in the infantile variety of this disease. M. Felizet contends that the condition of rapid tissue development is not favorable to the resistance of an infective process, and in that case the stage of hygienic treatment and local conservative surgery must be a period of watchful care and not be too prolonged. Many authorities consider that in the adult excision of the testicle offers the best hope of cure; and we are still in want of proof to show that the case of children is materially different.

The Treatment of Grip.—I order the patient sponged with alcohol, a mustard plaster placed over the seat of pain in the back, and prescribe the following:

R	Pulv. ipecac. et opii.....	gr. x
	Hydrarg. chlor. mitis	gr. iij
	Sodii bicarb.....	gr. ij
M.	Sig.—Take at bed hour.	

Next morning I give a tablespoonful of effervescent sodium phosphate in a glass of water and advise the patient to drink water freely throughout the day. Every two hours he is given phenacetin, grs. v., until five such powders have been taken. His diet is oatmeal, milk, and toast. After the acute symptoms have disappeared, and there is left only a feeling of weakness, anorexia, and lack of ambition, I prescribe a preparation of the alkaloids of cod-liver oil with the malt and hypophosphites. This being slightly bitter stimulates the appetite, and within a week puts the patient in normal condition.—WOOD.

The Cold-Bath Treatment of Typhoid.—I have shown in the cold-bath treatment of typhoid that (1) the case mortality of the disease is reduced by fifty per cent.; (2) that nearly all the distressing symptoms connected with the pyrexial state, and many of those depending on the intestinal lesion, are alleviated to an extent not attainable by any other therapeutic measure; (3) that nutrition is maintained and convalescence greatly accelerated; and (4) that even in cases which terminate fatally, life is prolonged on the average by several days.—DR. F. E. HARE, *British Medical Journal*, December 17th.

SURGICAL SUGGESTIONS.

The Surgery of the Suprarenal Capsule.—Abdominal surgery seems to grow ever bolder, and the great strides which it has made since 1860 do not seem to have brought it to the limits of the resources of science and art. Ovariectomy and hysterectomy have been generalized, and, putting aside the surgery of the gall-bladder, spleen, stomach, and intestines, much has been done of recent years for the surgical relief of tumors of the pancreas, urachus, mesentery, and retroperitoneal connective tissue. Dr. Otto Ramsey, of the Johns Hopkins University, has just published in its *Hospital Bulletin* a monograph on sixty-seven cases of primary malignant tumors of the suprarenal capsule. In only five cases was the tumor removed by operation, and he published three as original, two being under the care of Dr. Howard Kelly, one under Dr. Finney; all three were performed in the Baltimore Hospital. Of the remaining two, one was under Dr. Roberts, of Philadelphia, and ended fatally, and one under Dr. Knowsley Thornton, and recovered. The latter surgeon reports a second case, also successful, which, in Dr. Ramsay's opinion, represents an aberrant suprarenal gland in the substance of the kidney. Of the Baltimore cases, two died; one patient was a woman, aged sixty-four, the other a man more than ten years younger. The tumor in each case was an alveolar sarcoma. In Dr. Howard Kelly's successful case the patient was a woman, aged fifty-three. The abdomen was opened in the median line; the right kidney lay in the front of the tumor; the peritoneum was stripped off, and tumor and kidney removed as in nephrectomy. The vessels gave trouble, as the vein was short and had to be tied very near the vena cava. Before the operation there was slight discoloration of the skin; this was disappearing when the patient was discharged convalescent. All the three Baltimore cases are described in full, and there are two fine drawings of the tumor successfully removed—a fibro-myxosarcoma, five inches broad and over four inches in vertical and antero-posterior measurement. A study of the sixty-seven recorded cases of primary malignant disease of the suprarenal capsule shows that diagnosis is impossible in many, and difficult in all, cases; that the skin changes familiar in Addison's disease are rather the exception than the rule; that the tumor seems more frequent in the male than in women, and that they are extremely malignant. Operation gives the only hope of relief, and has been successful in two out of five operations, though even in these the prognosis is serious from the great frequency with which both glands are involved, and the tendency to early metastases. The principal difficulties in the operation are the friability of the tumor, the great tendency to hemorrhage, and the frequency of adhesions.—*British Medical Journal*.

Surgical Treatment of Cholelithiasis.—Robson in a recent article says that as statistics from various countries and by many observers agree in showing the frequent association of gall-stones and primary cancer of the gall-bladder and liver, it is desirable that cases of cholelithiasis should be submitted to surgical treatment at an earlier stage than has hitherto been the custom.

In all cases of tumor of the gall-bladder, even if unaccompanied by symptoms, an operation should be advised, and the obstruction, usually a calculus, should be removed.

SS If these rules were followed primary cancer of the gall-bladder and extension to the liver would probably be less frequent.

If early operation in cases of tumor of the gall-bladder were followed out, even if cancer had commenced, it could be caught in an incipient stage, when a cure by cholecystectomy, or even partial hepatectomy, might be reasonably hoped for.

An exploratory operation, even in a patient seriously ill with a localized tumor in the gall-bladder region, is worth advocating, though malignant disease be feared, in the hope that the disease may be inflammatory, and so capable of relief.

If there are any secondary nodules in the liver, or if adjoining viscera are invaded, the operation had better be terminated as a simple exploratory one.

Counter-Irritants.—The forms of counter-irritants now most usually employed are, in order of efficiency, the actual cautery, blisters, and iodina. In former times other methods were used, such as tartar-emetic ointment or croton oil (applied to the skin), the employment of the seton or of the moxa; but nowadays these forms of counter-irritation are, for the most part, discarded, and reliance is placed on the three to which I have referred. Of these, the least efficacious is iodine, which, indeed, unless in superficial inflammations, does not, as a rule, seem to exercise any action. It is a substance which is very commonly employed in chronically enlarged glands in the neck; but beyond diverting the attention of the patient and his friends, it does not seem to possess any real salutary effect.—DR. W. WATSON CHEYNE, *Treves' System of Surgery*, vol. i., page 74.

Deaths After Subcutaneous Injection of Mercury.—Mr. Hutchinson has been informed of a very lamentable result from subcutaneous injection of mercury in syphilis. There is a mixture of metallic mercury with oil, known as Lambkin's solution, of some considerable repute in army practice, and with which no accidents seem previously to have been known. The surgeon who employed it had used it often with good results. On a certain day four soldiers suffering from syphilis were injected with the usual dose, all precautions being observed. Nothing unusual was noticed in the solution (which was freshly made), and when it was subsequently examined, it appeared to have been properly mixed. Ten days later the men were injected for a second time from the same preparation. At varying dates, from ten days to a fortnight after the second injection, all had the most severe salivation. Ulcers formed in the mouth and throat, and there was in three cases very profuse diarrhœa. Under the combined influence of the diarrhœa and stomatitis, two died. Of the two others one is convalescent, and the other still in a somewhat critical state from necrosis of the lower jaw.—*Archives of Surgery*, January, 1899.

Amputations—Indications for.—PRIMARY: 1. Nearly complete avulsion of the limb.

2. All conditions of injury by which the further vitality of the limb is annulled.

3. Injury to the chief nerves and vessels, with comminution of the bone.

4. Great and irreparable destruction of the soft parts.

SECONDARY.—1. Where suppuration, with extensive inflammation of the bone and soft parts is wearing out the patient.

2. Where gangrene has supervened.

3. Where late hemorrhage has come on, which cannot be otherwise stopped.

4. Where septicæmic affections or acute osteomyelitis are supervening.

5. It is recommended also by some on the onset of tetanus.—DR. ANDREW DUNCAN.

Cystitis versus Pyelitis.—In cystitis there is always more pus than in pyelitis, and for this reason kidney epithelium is found more readily in pyelitis because of the smaller amount of pus present. After centrifuging the urine, it should be tested for the amount of albumin it contains. In cystitis it is found absent or present, depending on the amount of pus; whereas, in pyelitis, a considerable quantity of albumin is always found. The explanation for this difference is due to the fact that the kidney is a much more vascular organ than the bladder, therefore exudation takes place more easily. Red blood cells are found more frequently in pyelitis than in cystitis. In pyelitis casts are often found. Clinically, we might succeed in distinguishing these two conditions by washing out the bladder with sterilized water immediately after urination, examine the urine collected, and also the washings for pus. If the water contains a considerable amount of pus, it is probably cystitis.—DR. JOHN A. WESENER.

Broken Neck.—A case of broken neck should be treated:

1. By extension and counter-extension, or by Walton's method of "retro-lateral flexion towards the side towards which the face looks and then rotation back of the normal position," especially if there is any deformity.

Danger of sudden death should be borne in mind according to Dupuytren, though no cases have been reported.

2. This failing to relieve, laminectomy should be done, as offering the only chance to the patient, though it may not be successful more than once in fifty cases.

3. Absence of patellar tendon reflex is not invariably a contra-indication to operation.

4. Fracture-dislocations in the cervical region are far more serious than those occurring elsewhere, but not necessarily hopeless.

5. Operations, if done at all, should be done at the earliest possible moment, before degeneration of the cord takes place.—DR. GEORGE TULLY VAUGHAN, *The National Medical Review*, December.

FORMULAE.

Neurasthenic Headache Associated with Low Vascular Tension.

℞ Caffein citratis gr. v
Sodii bromidi gr. x
Sodii bicarb. gr. x
Pulv. acid. tart. gr. x

M. Ft. pulv. No. j. Sig.—Take in water while effervescing.

Or:

℞ Caffein salicylatis gr. j
Ammonii salicylatis,
Phenol salicylatis. aa gr. v

M. Ft. cap. No. j. Sig.—One capsule every three to four hours.

Or:

℞ Caffein pur. gr. ss to jss
Phenacetin gr. v

M. Ft. cap. No. j. Sig.—Take in hot water; repeat in one hour if necessary.

As a Diffusible Stimulant for Neurasthenic Headache, Especially in Women.

℞ Ammonii carb ʒ iij
Tinct. symbol ʒ vi
Spts. lavandulæ ʒ j
Elix. ammonii valerian. ad. ʒ viij

M. Sig.—Two teaspoonfuls every three hours in water.—*Dr. Joseph Collins*, in *Medical News*, February 11th.

Bronchiectasis, with Fetid Expectoration.

℞ Plumbi acetatis gr. 1-6 to ½
Terpin hydrat. gr. ij to v
Pulv. opii et ipecac. gr. jss to ijss

M. Ft. pil. No. j. Sig.—Three or four pills daily.

Occasionally suspend this and give:

℞ Guaiacol,
Liq. potassii arsenitis. aa ʒ ij
Eucalyptol ʒ j

M. Sig.—Ten to twenty drops morning and evening.—*Porcelli*.

For Rigidity of the Perineum.

℞ Chloroformi parts 2
Etheris part 1
Eau-de-cologne part 1

M. Sig.—For external use.—*Southworth*.

Chronic Colitis in Children.

℞ Acid hydrochlorici gtt. v
Aquæ destil ʒ iij
Syr. gum Arabici ʒ vj
Tinct. opii gtt. ij

M. Sig.—One or two teaspoonfuls twice a day.

If it is evident that putrefaction is going on in the intestines:

℞ Benzo-naphthol,
Beta-naphthol aa gr. ij
Bismuth salicylat gr. j
Pulv. gum Arabici gr. v

M. Ft. in pulv. No. j. Sig.—One three times a day to a child of four years. Continue this for four or five days.—*Romme*, *La Presse Médicale*.

Gout.

℞ Quin. sulph ʒ j
Acid citric ʒ ij
Syrup. simp.
Syr. aurantii flor. aa ʒ ij
Aquæ destil ʒ vj

M. Sig.—Ten drops of this mixture in an ounce of water, to which is added twenty grains of bicarbonate of sodium, to be taken while effervescing.—*Klinische Therapeutische Woch.*

Asthma in Pregnancy.

℞ Potassi bromidii ʒ iij
Chloral hydrat. ʒ ss
Aquæ ʒ j

M. Sig.—Teaspoonful to be used as required.

Or:

℞ Potassii bromidi ʒ j
Iodini gr. j
Tinct. gentian. comp. ʒ j
Aquæ ʒ ij

M. Sig.—Teaspoonful three times a day.—*Henry C. Moir*.

Treatment of Typhoid Fever by Chlorine.

After four years' observation, I am ready to reiterate the conclu-

sions which I presented to you in my former paper, viz.:

(1) That in the treatment of typhoid fever chlorine can be safely administered until disinfection of the alimentary canal is obtained.

(2) Under its use the tongue becomes clearer, the appetite and digestion better, the fever lower, and the stools devoid of odor save that due to chlorine.

(3) The general strength, intellectual processes, and nervous conditions improve.

(4) The disease is shortened in duration and the patient usually proceeds to a rapid and complete recovery.—*Dr. Reynold W. Wilcox, Medical News, February 11th.*

An Agreeable Antiseptic Dentifrice.

℞ Salol gr. xlv
 Ol. anisi,
 Ol. geranii aa m viij
 Ol. menth. pip. m xv
 Spiritus ʒ v
 M. Sig.—Dentifrice.—*Nogue.*

The Creed of the Spiritual Healer.—According to the *Lancet* for April 29th, the *Critic* publishes some amusing verses on the creed of the spiritual healer. Two members of this sect, says the *Lancet*, which seems to be another name for the Christian Scientist, have informed an interviewer to keep in good health “what you want to do is to think that you can’t be ill. Try and (*sic*) remember that the body is nothing.” The poet of the *Critic*, after musing on the foolishness that has beset men who for generations have suffered and even died without using so easy a therapeutic measure, sings thus:

For the body’s not at all;	Should you lose your legs, anon,
Rich and poor and great and small,	Never think of grafting on
Thin and fat,	Legs of cork;
Man is nobody; you’ll note	Don’t believe you’re even lame,
There is nothing in his coat	Put your boots on all the same,
Or his hat.	Rise and walk!

Never work, and ne’er be sad;
 Hunger’s nothing but a fad;
 Feed the mind.
 When on nothing you are cloyed,
 If you feel a kind of void—
 Think you’ve dined.



A Text-Book of Anatomy. By American Authors: A. D. BEVAN, F. H. GERRISH, WM. KEILLER, J. P. McMURRICH, G. D. STEWART, and G. WOOLSEY. Edited by FREDERIC HENRY GERRISH, M. D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Illustrated with 950 engravings in black and colors. Royal octavo, 917 pages. Lea Brothers & Co., Philadelphia and New York. 1899.

This treatise on anatomy is destined to become the most popular work on the subject. It covers the ground completely and satisfactorily. It is superior to Gray, Allen, and others. Not the least important feature is that of the illustrations, many of which are original, while others have been taken from standard German and French works.

The Unconscious Mind. By ALFRED T. SCHOFIELD, M. D., M. R. C. S. 8vo, cloth, 451 pages, with copious index and diagrams. Price, \$2.00, post-paid. Funk & Wagnalls Company, Publishers, 30 Lafayette Place, New York.

The object of the author is to establish the fact of an unconscious mind in man, and to trace in brief some of its powers and the various ways in which they are exhibited. The work seeks to show that this mind is the seat of character and of conscience and spirit-life; the source of conduct, of instinct, of tact, and the thousand qualities that make us what we are; the home of memory, the ultimate governor and ruler of all actions and functions of the body, and in every way a most important factor in our psychical and physical life.

The book is an interesting contribution. The chapters relative to "The Unconscious Mind and Disease" and "The Unconscious Mind and Therapeutics" are particularly interesting to medical men.

A Treatise on Human Physiology for the Use of Students and Practitioners of Medicine. By HENRY C. CHAPMAN, M. D., Professor of Institutes of Medicine and Medical Jurisprudence in the Jefferson Medical College of Philadelphia. New (second) edition thoroughly revised. In one handsome octavo volume of 921 pages, with 595 engravings. Cloth, \$4.25, net; leather, \$5.25, net. Lea Brothers & Co., Philadelphia and New York.

The first edition of this work is so well known that it is only necessary to say that while the plan and arrangement which have proved so satisfactory remain unchanged, every page shows the revision necessary to represent the present status of its highly developed subject. Especially will these changes be noted in the section on the Nervous System, and wherever necessary to show the great advance recently made in the field of physiological chemistry.

Progressive Medicine, Vol. II. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 472 pages, 56 illustrations and 3 full-page plates. Lea Brothers & Co., Philadelphia & New York.

The second volume of "*Progressive Medicine*" presents carefully prepared and exhaustive papers upon the following subjects:

Surgery of the Abdomen, including Hernia. By William B. Coley, M. D., of New York City.

Gynecology. By John G. Clark, M. D., of Philadelphia.

Diseases of the Blood, Diathetic and Metabolic Disorders, Diseases of the Spleen, Thyroid Gland and Lymphatic System. By Alfred Stengel, M. D., of Philadelphia.

Ophthalmology. By Edward Jackson, M. D., of Denver.

The Diseases of the Nervous System. By DR. LUDWIG HIRT, Professor at the University of Breslau. Translated by AUGUST HOCH, M. D., and FRANK R. SMITH, A. M., M. D., with an Introduction by WILLIAM OSLER, M. D., F. R. C. P., F. R. S. With one hundred and eighty-one illustrations. Octavo, pp. xvi.-715. New York: D. Appleton & Company. 1899.

Hirt's Text-Book is one of the most valuable of the German treatises on neurology. The arrangement of subjects is somewhat novel but satisfactory. To place tabes and dementia paralytica among the diseases of the general nervous system instead of in the sections on diseases of the cord and diseases of the brain, respectively, is a distinct advance.

The book is valuable to the medical student and general practitioner because of its arrangement and its graphic delineation of the anatomy and symptomatology. The illustrations also add much of value and are in marked contrast to those worn-out cuts which we see only too frequently.



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NEW REMEDIES.

The Therapeutic Uses of Melachol Effervescent Tablets.—Probably no form of medicine is more generally grateful to the sick than that in which the solution of the drug causes the formation of carbon dioxide. There are two reasons for this: First, the gas itself is particularly pleasant to the stomach, allaying a sense of nausea and unrest by its sedative action; second, the gas in a great measure disguises the taste of the medicines by creating a sensation which, in a very marked degree, overpowers the sense of taste, and hence the disgust and nausea experienced by so many persons when taking bitter medicines is entirely prevented.

The stimulant and exhilarating effects of effervescent beverages is the cause of the great popularity of the many refreshing drinks now dispensed from soda fountains; and it is not saying too much to assert that much harm might be done by these same drinks if taken without the carbonic acid gas.

It is a knowledge of these facts which has led pharmacists to produce the large and constantly increasing class of effervescent powders and granular salts.

This, also, has induced the Alta Pharmacal Company to put melachol in the form of effervescent tablets, a form in which the dose may be accurately gauged, and in which the properties of the medicine are maintained for any length of time in any climate.

Regarding these, as well as most other tablets of almost every class, it seems proper to state that it will be found to facilitate their solution to crush or break them before adding the water, as much greater surface is at once exposed to the action of the solvent, and the medicine can be taken while it contains more than the one volume of the gas which the water is capable of dissolving.

The effervescent melachol tablets are particularly useful to travelers, and army surgeons have advised that nothing more desirable could be found for the camp and field.

The therapeutic uses of melachol are so clearly indicated by the formula, as given in the literature of the company, that it is not necessary to repeat it here; but from a clinical report by a competent observer in one of the worst malarial districts of Arkansas, it is found that its use is broadening its range of therapy, several cases of malarial hæmaturia having been successfully treated with this remedy.

The same report also contains an account of its use in a case of the so-called typho-malarial fever, where mercury and malarial antidotes all failed until melachol was given, when the coated tongue cleaned up, the bowels and liver were aroused, and the case went on to a rapid recovery.
—*St. Louis Clinique*, May, 1899.

The Uses and Effects of Gude's Manganiferous Iron Peptone.—The employment of iron preparations both in essential anæmia (chlorosis) and in the symptomatic forms of this affection produced by severe losses of blood, dates from the earliest times. Long before the chemical relation

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of this effect was known, these remedies were administered on the ground of pure empirical experience.

When Hannon pointed out the high significance of manganese, as well as of iron, with regard to the absorption of oxygen by the blood, and when this discovery was confirmed by Ruehle, efforts were made to produce, by combination of both remedies, preparations which would best fulfill the therapeutic indications in all directions.

Former attempts of this kind failed to give the desired results. The aim was to combine both metals in such a form as would enable them to be absorbed throughout the entire extent of the alimentary canal, and at the same time be devoid of disagreeable taste which would prevent their prolonged administration. After a series of experiments made in this direction, I found in the preparation discovered by Dr. A. Gude (pepto-mangan—Gude) a remedy which fulfilled the above requisites, and can recommend it most heartily.

Pepto-mangan—Gude is a clear, dark, wine-red fluid, having an agreeable, non-metallic, astringent taste. The latter property gives it a great advantage over other similar preparations, for the remedy is always taken with pleasure, and may therefore be administered for a long time without exciting the disgust of the patient. No irritation of the stomach is produced, nor is the digestion disturbed in the least respect; indeed, as regards the latter, a stimulation of the long-absent appetite could be demonstrated within a short time.

The pepto-mangan—Gude, usually mixed with some water, is prescribed in doses of two or three dessertspoonfuls, increased to as many tablespoonfuls per day. An especially agreeable manner of administration is by addition of cold milk, which then assumes a light chocolate color and an agreeable taste. Prescribed in this form we obtain from this preparation everything that could be expected from a remedy for anæmia. The pepto-mangan—Gude may also be mixed with white and sweet wines, excepting the red wines which contain tannic acid, and an occasional change in the manner of administration is sometimes of advantage, especially in the case of children.

The diet, during the use of this preparation, should consist of milk, meats—especially ham—fowl, soft-boiled eggs, and other easily digested foods. On the other hand, sour and fatty foods, red wines, and raw fruits are to be avoided.

The remedy is to be administered for a number of weeks, especially in cases of chlorosis; but in the case of young girls up to twelve years of age, it is best to commence with a daily dose of two teaspoonfuls (ten grammes). In adults the dose of the pepto-mangan—Gude may be increased in a few days to one tablespoonful twice or thrice daily, or even to ten or twenty grammes. The preparation should be well protected from the light, and preserved in a cool place in a well-stoppered bottle.

I have employed the pepto-mangan—Gude with much success both in chlorosis and in cases of anæmia in girls and women due to loss of blood, menorrhagia, metrorrhagia, inflammation of the pelvic organs, peri- and parametritis, or prolonged leucorrhœa. In almost every instance I observed within a short time increase of appetite, improved nutrition, healthier color of the face, and increase of weight. I was surprised to

learn how much more readily the pepto-mangan—Gude was taken than similar preparations, without ill effects even after protracted use.

To illustrate my remarks I will cite a few cases:

I will first report a case of chlorosis treated with this remedy, which was under constant observation. The patient, a school-girl, aged sixteen, began to menstruate one year ago, but after appearing regularly for three periods the flow suddenly ceased, probably in consequence of mental overexertion, and symptoms of chlorosis soon developed. The various preparations of iron were tried, but were either not well borne or excited so much disgust that they were discontinued by the capricious patient. A milk cure was prescribed, but followed for only a short time. When, however, I resorted to the pepto-mangan—Gude I was surprised to find that the girl took it willingly and that it was well borne. She made a rapid recovery, and after the use of two bottles had regained her former healthy color, while her strength and menstruation returned.

CASE 2.—A married lady, aged twenty-four, had acquired—apparently of abortion at a very early period—an intense peri- and parametritis with an exudation of the size of a child's head. The latter disappeared almost completely under suitable treatment and rest, so that only a slight induration was present in the parametrium after three weeks. Owing to the considerable anæmia and loss of appetite, however, the patient recovered very slowly, and for this reason I ordered the pepto-mangan—Gude. A few days after its use the appetite reappeared, recovery ensued rapidly, and five weeks later her health was completely restored.

CASE 3.—A married lady, aged thirty, had suffered from leucorrhœa due to catarrhal inflammation of the vagina for two years, and although the local trouble had been much relieved she continued pale and weak. As her chlorotic daughter at the time was taking the pepto-mangan—Gude with marked benefit, I advised her also to try this preparation. She followed my advice, and after fourteen days the weak, sluggish, and pale woman seemed as if transformed. She has since regained her former health.

These few cases, which were under continued observation, will confirm what has been said above regarding the manner of application and effect of the pepto-mangan—Gude. I regard it as superfluous to cite other cases, since a few closely observed cases teach more than a host of superficial observations.

On the ground of my experience I consider myself warranted in directing the attention of physicians to this remedy, and feel convinced that further trials will give equally favorable results. Even in cases where local treatment is necessary the pepto-mangan—Gude will prove a valuable auxiliary in our treatment.—DR. JULIUS HEITZMANN, Vienna, *Allgemeine Wiener medizinische Zeitung*, xxxvi.

Concerning Silver and the Silver Salts.—The author confirms the results obtained by Credé with the citrate and the lactate of silver, and records his opinion of their decided superiority to other remedies as external disinfectants, on account of the energy and depths of their action and their freedom from irritant and destructive effects. He praises the citrate, more especially because of its slow solubility, the depth and length duration of its action, and its absolute non-poisonousness and non-causticity. He

recounts a few pregnant cases of mastoid operations, severe burns, injuries to joints, and complicated fractures, in which the saturated solution of the citrate of silver and drainage with the citrate of silver gauze rendered him the most excellent service.

In the second part of his paper the author considers the important subject of the soluble metallic silver recently introduced by Credé, and its therapeutic value in septicæmia (blood poisoning). He demonstrates the remarkable physical properties of this soluble metal, and of the preparations made of the *argentum colloidal*, more especially the silver salve, the *unguentum Credé*. He shows by means of microscopic illustrations that the *argentum colloidal*, both in watery solution and in salve form, is a suspension of the very finest molecular particles, and is in a condition most suitable for reception into the capillaries and the tissues.

In conclusion Wolfrom reviews the indications for the use of the silver salve in the various acute and chronic pathological conditions caused by septic infection. He lays stress upon the necessity of beginning the silver treatment of the general system early, before the advent of dangerous secondary symptoms and toxic effects. He is firmly convinced that the soluble silver will influence fresh cases, of septicæmia, as well as chronic ones and furunculosis when no complications are present, most favorably. Often, indeed, it will effect a rapid and most astonishing cure. He therefore most urgently recommends the use of the Credé method in suitable septicæmic cases to his colleagues.—Abstract of a paper read by DR. G. WOLFROM, of Magdeburg-Buckau, before the Magdeburg-Medical Society, April 28, 1898.

What is "Husa?"—Some little time ago a cock-and-bull story was told about a plant called "husa," which was said to be a wonderful cure for the opium habit. Prof. John Uri Lloyd, of Cincinnati, has gone pretty thoroughly to the root of this matter, and has investigated a sample of "husa" obtained from the individual exploiting it. It appears to be nothing else than a concoction containing a large quantity of morphine. Any effect it may possess in the treatment of the opium habit apparently results from the "husa" given for administration being a graduated solution of morphine. Professor Lloyd defines "husa" as follows: "A solution of sulphate of morphine to be administered under the name of 'husa' and only by physicians. It is sold to physicians at the rate of \$10 for about two hundred and thirty-four grains of morphine. In support of this view I offer the foregoing testimony, and submit herewith the morphine obtained from twenty-five cubic centimeters of each liquid. Until I am furnished with a new plant containing morphine to the extent found in these experiments I shall accept 'husa' as a concoction." It was to be expected that there was a nigger in the fence somewhere, and Professor Lloyd is to be thanked for so carefully exposing the fraud.—*Medical Age*.

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INSECTS AND MALARIA.

As the old order of medicine changes, giving place to the new, the student of medical history becomes more and more convinced of the accuracy of the ancient views of the etiology of certain diseases. Ages ago Chinese physicians were convinced that the infectious disease known now throughout the world as malaria, had some connection with midges, mosquitoes, flies or other creatures having their home and haunts in marshy or alluvial districts. The new order of research has at length demonstrated by its modern scientific methods that this ancient Chinese view was correct. The Arabs have always had a similar notion regarding the capability of flies to convey infection. The Arab notion of the fly was to represent it as embodying in its personality what is now called the doctrine of therapeutic antagonism. The Arab held that one wing of the fly contained a malady or disease, and that the other wing contained that which would cure it—an antidote. To the present day the wild Arabs will not drink any liquid into which a fly has fallen, simply because they believe that it has conveyed certain poisons into the liquid; but should the Arab manage

to completely immerse the fly in his milk or in his drinking water so that both of its wings enter the mixture—*i. e.*, the bane and the antidote—he will then drink it with a feeling of perfect safety. There may be some truth in the Arab view that diseases such as cholera, and those other diseases due to the influence of saprophytes, may be carried about by flies and other insects, but research has still to demonstrate whether in any sense the fly which brings the disease also comes with healing in its wings. There are many instances, however, of the application in the past of this principle in the treatment of disease: such as the hair of the dog's tail for curing its bite; the serpent's liver to cure its sting, and the scorpion in wine administered to those who are bitten by these creatures.

It was Crawford who first revived the notion that mosquitoes might be the propagators of the poison of malaria, so long ago as 1807; and Dr. Patrick Manson and Dr. Edward Lowrie, of Hyderabad, have devoted a considerable amount of research to this subject and showed that the life history of the mosquito afforded grounds for looking upon Crawford's hypothesis as reasonable. Other workers were Laveran, Koch, Bignami, and Grassi and Celli. Professor Celli tried to discover how the malarial germs live in their environment and how they return to affect man and the lower animals. The Mexican authors, Smith and Kilborne, have demonstrated what has absolutely been confirmed: that certain "ticks" are undoubtedly the medium of malaria in cows. In Rome the experiments excluded water as the vehicle of malaria, although Laveran and Manson had maintained previously that man is infected by drinking water contaminated by mosquitoes, in which, after sucking malarial blood, they are developed as an intermediate host. Grassi concluded that in the malarious places several species of mosquitoes exist, namely the *Anopheles claviger*, the *Culex penicillaris*, and the *Culex malariae*. Bastianelli and Bignami found that the semilunar bodies found in those cases contained chromatin, while the flagellate bodies were protoplasmic, derived from the chromatin of the nucleus.

Celli's experiments with "ticks" demonstrate that prophylaxis of bovine malaria was possible. At one farm, not a single cow took the disease, while in a contiguous farm, where the cows were allowed to graze in the fields, all were taken ill in a week, and fifty-four per cent. died. Celli and Santori, therefore, concluded that inoculation with the blood serum of animals immune to every species of malaria had itself some immunizing power. They very properly concluded, however, that the principles on which serum immunity and serum therapy were founded were valueless against malarial infection, and that inoculation of blood serum does not protect man from malaria. Experiments with the organic juices have given no result of a favorable kind. The blood of horses has also proved to be valueless.

SUGGESTIONS REGARDING LIVING IN THE TROPICS.

It is an established fact that Americans and Europeans are required not only to clothe differently, but to live entirely different from what the natives of hot climates live. It is an important matter that proper apparel be worn in order that one may adapt himself to the changing of

climate; this holds even in head-gear. It has been plainly shown for many years that the "solar topee" is the best possible form of head-wear for hot tropical climates, that the blazing sun demands that the head be properly protected, and those who have had most experience in the Orient, find the solar topee necessary, safe and efficient. The regulation felt hat, or even the straw hat, does not meet the broad and useful purpose of the topee. In the matter of wearing apparel it seems almost antithetical that if there is one thing more than another which contributes to the preservation of the health of the white man in tropical climes, that one thing is flannel. Flannel is a protectant against many maladies of the Orient, for it is a truth that when the human body is arrayed in linen, cotton or silk, it becoming saturated with perspiration lays any one open to all the ill-effects of draught and thereby exposing the body to the rapid effects of cooling, and in proportion to the rapid circulation of air creates an almost icy coolness to the skin. This is the reason that old-time residents of the Orient invariably wear thick flannel next to their skin in preference to either silk, cotton or linen or any flimsy fabric; the pajamas in particular are made of a heavy wool. The Arabs of the Soudanese and Sahara deserts and along the shores of the Red Sea array themselves in blankets and burnus of the coarsest species of wool, which is the one fabric that does not retain the moisture, but permits it to evaporate quickly and without danger to the body. Many Europeans and natives of the Orient, as an additional protection against dysentery and those other stomachic ailments constituting nine-tenths of the maladies in the East, wear big belts of flannel around the waist and next to the skin. Heavy breakfasts must be avoided; and tiffin or luncheon in the neighborhood of noon; the chief ingredient of tiffin is rice seasoned by delicious curries in order to render it palatable. The curries differ, but the rice is always the same; rice is always more wholesome hot, extremely nourishing and cheap, and is considered a preventive from cholera, dysentery and other intestinal troubles. An ex-attaché writing says: "No one who has not been out in the East can form an idea of the delicacy and savor of a first-class curry with its embellishments of 'Bombay duck', which, by-the-bye, is not a bird, but a fish, or can realize the perfection to which the cooking of plain boiled rice, each grain separate from the other, can be carried. But little meat is eaten, and what there is should be fresh and not canned. The meat is restricted to beef, game and poultry of one kind or another, mutton being an almost unknown delicacy in the tropics. I need hardly say that no one touches pork, since no amount of nature's chemical processes could possibly transform the offal upon which these scavengers feed into hygienic food. In fact, one would as soon think of eating the flesh of one of those yellow panata dogs which infest every Asiatic city as to sit down to a dish of Oriental pork. Vegetables and fruits are always in order. The midday siesta is essential; after tiffin time everybody goes to sleep; after the siesta comes the sponge bath, then recreation; all the work done is accomplished between seven o'clock and tiffin time. The dinner time comes in the cool of the evening; rice and curry again; figure soup is not infrequently served, always after the beginning of the dinner and not before. Extreme temperance in the use of liquors is always indicated, since a perfect digestion is the best protection against heat apoplexy.

Liquors and indigestion are its constant producers." It is asserted that the nights are most trying throughout the Orient, and to accomplish a good night's sleep enables one to successfully meet any trying ordeals of the day. Most of the heat of a bed seemingly comes from the bed one lays on; hence, cooling materials must be used. Some recommend to spread a Japanese mat of the finest rice straw between the mattress and the sheet. Another useful device recommended is to sleep with a bolster or pillow between the legs, thus avoiding the heat of contact engendered by the limbs pressing together; it is thus that foreigners as well as natives sleep in Java. Temperance in all things—work, food, and recreation—make the hot climates of the Orient possible for an American or European to live in.

THE MALARIAL PARASITE.

Since an attack of malarial fever confers no immunity, and during the attack the blood is swarmed by the parasites, Dr. Whelan suggests that these are discharged into the blood just before the attack, and the parent cells might be expected to be found in the spleen, portal veins and ductless glands, these parent cells periodically discharging themselves or becoming encysted. The bodies which become flagellated would then be anthiridia, and the separated flagella antherizoids, and the non-flagellogenic bodies would be gonidia. The parasite is polymorphic, and the parent cells found in the body would probably be of very different appearance from the extracorporeal forms.

MOSQUITOES AND MALARIA.

A medical contributor to the *Corriere della Sera* of Milan suggests: "Why not attack the enemy in its own habitat?" The mosquito, he proceeds to show, reproduces itself in low-lying, stagnant waters which constitute the true malarious environment. Poison these waters and you may destroy the larvæ of the mosquito by millions and render extremely rare these collectors and disseminators of the disease. In this way malaria may be conquered by weapons within the resources of science, and so vast spaces of Italian territory may be reclaimed to agricultural and industrial life with the concurrent abolition of infinite human suffering and misery. The suggestion is being already taken up and ere long will be put to the test.

A NEW STAIN FOR THE PLASMODIUM MALARIÆ.

In a recent issue of the *London Lancet*, Jenner called attention to a new stain for the plasmodium malaricæ. It possesses advantages over all stains which have hitherto been in vogue, and indeed is an ideal blood stain. Not only is it a reliable stain, but by its use there is no necessity for the laborious method of hardening and fixing which has gone with the handling of the methods already practiced. In short, it hardens, fixes and stains the specimen of blood. It is, therefore, a means of making a diagnosis at the bedside. Moreover, each kind of white blood cell is stained in a characteristic fashion, and the plasmodium different from all. The composition of the stain is as follows:

Take equal parts of a 1.2 to 1.4 per cent. watery solution of eosin and a one per cent. watery solution of methylene-blue. Agitate well and let stand for twenty-four hours. Filter with double filter paper. Allow residue to dry for twenty-four hours on the paper. Wash residue: take 50 c.c. of water in a burette; allow it to drop through residue slowly; dry in air; bottle. Make a one per cent. solution of this in methyl alcohol. Stain for three minutes without previously fixing the specimen. The stain acts in the following manner: the neutrophiles are stained light blue; the basophiles are stained a dark intense blue; the eosinophiles are stained red in the ordinary way; the nucleated red blood cells are stained dark blue; the plasmodia are stained a light blue. G.

MALARIAL INFECTION OF BIRDS BY MOSQUITOES.

The question regarding the infection of birds by mosquitoes has been reported upon by Major Ross of the Indian Medical Service. He says that "the examination of a large number of gray mosquitoes fed on sparrows infected with proteosoma showed clearly that the proteosoma-coccidia, after reaching maturity (seventh day), formed two different kinds of reproductive elements, namely: (1) a large number of delicate thread-like bodies, or (2) a smaller number of large black spores. The thread-like bodies, which contain vacuoles and chromatin granules in the middle, are not unlike tympanosomes, though Ross has never succeeded in detecting any certain indications of movement in them. They are closely packed in thousands in the capsule of the mother coccidium.

The large black spores are when mature cylindrical with closed ends, straight, curved, or variously twisted. It is difficult to estimate the number of them produced by each parasite, as many appear to be ejected before being fully matured. Ross has never observed both the thread-like and the black spores in the same coccidium. Soon after the coccidia have matured—about the eighth or ninth day—they burst *in situ* and pour their general elements in the general cavity of the body. Ross observed that the thread-like bodies were frequently to be found collected within the cells of the salivary or poison gland of the mosquito. The secretion of the gland is obviously meant to be injected into the wound made by the tongue and the other stylets of the mosquito. Its function is, it is contended, to check the spasmodic contraction of the torn capillaries, which would otherwise quickly stay the flow of blood into the wound, whence it is conveyed into the general circulation and doubtless originates an infection of the proteosoma.

Infection of birds by the bites of infected mosquitoes was very easily proved by experiments. The birds died, showing not only the characteristic pigmentation of the liver, but a distinctly inky color of the blood. Ross has not been able to study the reproductive elements of the mosquito stage of the human gymnosporidia; but he considers, that there is no reason to suppose that they differ much from those of the proteosoma-coccidia, or that the modes of infection of human malaria are unlike those of ovarian malaria. The pigmented cells found in mosquitoes fed on blood containing crescents were exactly like those derived from proteosoma. The function of the black spores remains undetermined.

INFECTIVITY OF TYPHOID URINE.

Another question which has received some attention recently is the infectivity of the urine of typhoid patients. This has been pointed out by Dr. Wyman Richardson, of Boston, who confirms the statement that the urine of typhoid patients may contain the specific bacillus in enormous numbers, and that it may retain it in that excretion for weeks or even years and constitute a danger to the patient, probably causing cystitis or orchitis, and is a peril to the public health. In nine cases in which the bacilli were found in the urine, urotropin never failed to remove the organisms, and in seven their disappearance was permanent. Dr. Wyman Richardson says that all typhoid cases should receive thirty grains of urotropin daily for ten days as convalescence approaches, beginning with the third or fourth week: for it is impossible without bacteriological investigation to tell whether the patient's urine contains typhoid bacilli. Dr. Wyman Richardson had previously ascertained that the typhoid bacilli were practically always associated with albuminuria and the presence of tube-casts, but that the converse was not invariably true. He proposed irrigation of the bladder, but that method is open to objection in typhoid fever. Though he found sublimate efficient, boric acid was not reliable. A patient who had been treated *five* years previously in the Johns Hopkins Hospital for typhoid came recently under the care of Dr. Harvey Cushing. Ever since convalescence he had been subject to dysuria. Investigation showed he was suffering from cystitis, and the typhoid bacilli were obtained in pure culture from his urine. Thus typhoid urine should be disinfected, like typhoid stools.

THE SERUM TREATMENT OF TYPHOID.

The main point of interest centers round the serum treatment experiments which are being conducted in different parts of the world. One of the late Commissioners, Professor A. E. Wright, of the Army Medical School, Netley, took advantage of his visit to the typhoid districts of India to avail himself of the opportunity of inoculating certain British troops against this dread enemy of the soldier on foreign service. It appears that in one troop ("The West Riding Regiment") stationed at Bangalore, two hundred and fifty of the soldiers volunteered to be inoculated with the typhoid serum as protectionary or prophylactic measure. When at Rawal Pindi, Doctor Wright addressed the Queen's Regiment on the advantages of inoculation, mentioning that one thousand and five hundred soldiers are annually ill with enteric fever, and that one out of every five dies. Out of two hundred attendants at the Maidstone Asylum in Kentshire in the south of England, ninety-five persons were inoculated and none contracted fever, while of those who refused to undergo the process, nineteen suffered from the disease. At Khartoom, of eight young subalterns, six consented to inoculations, and the other two agreed to take their chance; one was very ill with enteric, the other died; the inoculated officers escaped. Professor Wright also inoculated the garrisoned troops at Lucknow, three hundred of the Third Hussars, and one hundred and twenty Cameronians. I understand that diligent experiments are being made with the typhoid serum in more than one physiological laboratory in this country. These are probably the professor's own statements, and must, up to the present, be viewed in that light.

W. L. B. (London).

CLINICAL LECTURE.

MEDICAL CLINIC ON DISEASES OF CHILDREN.

By AUGUSTUS CAILLÉ, M. D., of New York City,

Professor of Diseases of Children; Visiting Physician New York Post-Graduate and German Hospitals; Consulting Physician Isabella Home and Hospital, etc.

CASE I.—*Incontinence of Urine.*—Incontinence in childhood is, in the majority of cases, limited to the night, when the child is in bed asleep, and is known as "nocturnal incontinence." This boy comes with a history of wetting his clothes and bed. When a child comes with such a history, make a local examination. In this instance there is an elongated prepuce, which causes this complaint. Some urine remains in the prepuce and there causes irritation. In this child, circumcision is indicated, and this operation we will now do.

CASE II.—*Convulsions of Reflex Origin.*—When you have convulsions, look for the underlying cause. This child, five months old, has convulsions every day. One should question the feeding. This child gets milk improperly diluted with water. He has constipation and requires an injection every day. The lungs, kidneys and heart are sound. So this is a case of reflex convulsions, due to constipation. The food should be changed. In reducing milk the fat is reduced from three per cent. to one per cent. The child must get more fat. Instruct the mother to dilute the top milk.

CASE III.—*Acute Emphysema.*—This next child is brought to us because the mother and the attending physician suspect a stenotic condition of the trachea. The child is seven years old. There is retraction and labored breathing. The voice of the child is clear, which would not be the case if there were stenosis in the larynx. There is good pulmonary resonance, dullness beginning at the eleventh rib, when it normally begins between the ninth and eleventh. It is a case of acute emphysema. The child has suffered from bronchitis for some time, and the efforts to expand the lung caused emphysema. The breathing is ordinary asthmatic breathing. For this condition I prescribe potassium iodide. There is no obstruction of trachea or larynx.

CASES IV.—V.—*Muscular Insufficiency.*—Here are two babies, nine and eleven months old. They are unable to hold up their heads. These two cases are of interest, side by side, as their trouble is not at all of the same nature. I have another case, similar to these two, that is not able to hold up its head and is blind at the same time. This first child has rachitic insufficiency of the muscles. This is a disease of malnutrition, brought on by improper feeding. The child is breast-fed and illustrates what I am going to say later in regard to breast milk not always being the proper food. We find on examination that this milk is very poor milk, with almost no fat. The mother does not have proper food, and if the milk does not improve after increasing her diet by meat and eggs, we will either take the child from the breast and give diluted cow's milk or give both. This second child that does not hold up its head is an idiot.

There are old adhesions in the brain from meningitis, and nothing is to be hoped from treatment. The third child I have mentioned is like this one, and is blind besides. Such cases have recently been studied, and are tagged as amaurotic family idiocy. Cases of this kind that are blind do not usually live longer than the age of two years. Their pathology is quite obscure.

CASES VI.—VII.—VIII.—*Eczema*.—Here are three cases of eczema. This first one is a formidable case. The boy was in an eye hospital for a week under the supposition that he had an infection of the eye. But after a week it was decided that he had pustular eczema. It began with a pimple on the eyelid, and by scratching the infection was spread. It was first thought the eye structures were involved, but the eye is intact. The second and third cases are typical cases of eczema of the face and scalp. One has a running ear. Usually discharge from the ear, nose or gums is responsible for the eczema. The scabs should be loosened up by means of oil over night. When there is bleeding, cauterize with mild solution of nitrite of silver. Apply Lassar's paste, the recipe for which is as follows:

R	Zinci oxidi,	
	Amyli	aa ʒ ij
	Vasalini	ʒ iv

Cover the face with a mask of gauze to prevent scratching. It will heal remarkably well, and we will get good results in a week. Care should be taken that the bowels act freely.

CASE IX.—*Apex Pneumonia*.—Here is a pneumonia case from the babies' wards. The temperature is 106° and is gradually coming down. The child's cough is loose, the skin is dry and hot, the respirations are jerky in character, and there is absolute dullness over the right apex; the left is free. The middle and lower lobes on the right side are free. Apex pneumonia is frequently overlooked. The temperature is usually higher than in the ordinary forms of this disease, and the cough is gagging, like a mild whooping-cough. There is apt to be twitching, convulsions and general unrest. The treatment is symptomatic, with baths to reduce the temperature, and perhaps a little phenacetin or antipyrin, three to five grains at night, to reduce the temperature and to induce rest. Antipyrin may be dissolved in ether and given by the rectum if there is danger of disturbing the stomach. Iodide of potassium should be given later to liquefy the secretions in the lungs. Apex pneumonia is a good focus for tubercular infection. I am always glad to see an apex pneumonia clear up.

In conclusion, I wish to speak on the management of breast milk. In very few text-books do you get a condensed statement in regard to it. It is an axiom that every mother should nurse her own baby. A child should not be continued at the breast if it is not thriving, just because it is taking breast milk. Some wean for insufficient reasons. Breast milk has a certain composition. We divide it into fore milk, middle milk, and a stripping. There are five per cent. less solids in fore milk than in strip-pings. If a mother with twins nurses the same child first, and they do not thrive, it is because the first child is starved merely because it does not take enough solids, and the second child may be colicky from too much

concentrated milk. In nervous, irritable mothers, the fat in the milk may be reduced to three-fourths per cent. In a lazy mother, the milk is overrich because she does not exercise enough to keep her milk in the proper condition. Irregularity in nursing changes the character of the breast milk. Shall a woman nurse a child after she commences to menstruate? The menstrual period is a matter of a few days only, and the old proportion soon returns after menstruation. How may the mother's milk be influenced? The lazy mother should exercise. Fat may be increased by giving eggs and meat. German mothers drink beer, thinking this will improve it; but this is somewhat of an illusion, as the increase does not signify increase of fat. A large increase of casein causes colic. In order to analyze milk, fill a graduated glass with mother's milk, put in ether and let it stand twenty-four hours. The ether dissolves the fat, and this may be weighed. Coagulate the albuminoids with rennet, filter and weigh the coagulum. This gives the amount of casein. If the breast milk is giving out, supplement with cow's milk diluted. Do not wean on insufficient reasons.

Notes on the Treatment of Typhoid Fever.—From the beginning, insist that the mouth, tongue, and gums be kept clean.—DELAFIELD.

Perfect rest of body and mind. Plenty of cool water, no alcohol, in young, vigorous subjects. For headache, cold compresses.—UPSHUR.

Half an ounce of whiskey fifteen minutes before each bath; cold effusions to the head during the baths; glass of hot milk containing malt extract after the bath.—W. GILMAN THOMPSON.

Chlorine water can be safely administered until complete disinfection of the alimentary canal is obtained. Under its use the tongue becomes cleaner, the appetite and digestion improve, fever declines, and the stools lose their offensive odor. The general strength, the intellectual processes, and nervous condition improve. The disease is shortened in duration, and usually proceeds to rapid and complete recovery.—R. G. WILCOX.

At the beginning of the disease, give ten grains of calomel on alternate days. Give one grain of carbolic acid and three drops of tincture of iodine, every four hours, during the entire illness.—AUGUSTUS ELLIOTT.

Tubbing is altogether the best treatment for the disease itself and not simply for the temperature reduction.—DELAFIELD.

Don't counteract the good effects of the baths by giving too much whiskey.—SHILER.

Brand's Treatment of Typhoid Fever.—The treatment stands by itself as a definite procedure not to be confounded with the treatment of enteric fever by graduated baths, the cold pack, cold effusions, sponging, continuous immersion, or other hydrotherapeutic measures. It is especially to be looked upon as a method entirely distinct and different from any merely antipyretic treatment.—J. C. WILSON, of Philadelphia.

ORIGINAL ARTICLES.

RESECTION OF THE CERVICAL SYMPATHETIC IN GLAUCOMA.

By PROF. THOMAS JONNESCO, of Bucharest, Roumania.

Translated from the *Wiener Klinische Wochenschrift* of May 4, 1899, by James Moores Ball, M. D., of St. Louis, Missouri; Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons.

IN A CASE of glaucoma I resected the superior cervical ganglion for the first time on September 13, 1897. On the 10th of October, of the same year, I reported the result of this operation to the Academy of Medicine of Paris. Since that time I have had the opportunity of making this operation eight times, and the most of these cases are old enough to pass judgment upon this procedure and its indications.

First the facts will be reported, and from them conclusions will be drawn.

CASE 1.—Absolute glaucoma of chronic irritative variety, with inter-current attacks: man, aged fifty. Operated on September 21, 1897; bilateral resection of the superior cervical ganglion. After the operation: marked contraction of the pupil; diminution of intraocular tension; even to hypotony; cessation of pain; distinct improvement in vision; sees fingers at two meters and more; goes about alone and avoids all obstacles. No further attack.

CASE 2.—Absolute glaucoma of chronic irritative type: woman, aged forty-four. The disease began nine months ago; pain. Visual acuity almost lost. Operated October 3, 1897; bilateral resection of the superior cervical ganglion. After the operation: slight contraction of the pupil; slight diminution of intraocular tension; vision but little changed.

CASE 3.—Chronic irritative absolute glaucoma, with exacerbations: woman, aged sixty. The disease is of eight 'months' standing. Light perception and visual acuity. Operated October 15, 1897; unilateral (left) resection of the superior cervical ganglion. After the operation: slight change in the pupil; slight reduction of intraocular tension; light perception and visual acuity remain almost *nil*.

CASE 4.—Chronic irritative glaucoma: man, aged forty-nine, from Hatzfeld, in Austria. Double iridectomy without result. Periorbital pain; reads letters 6 cm. size at scarcely one meter. Operated November 7, 1897; bilateral resection of superior cervical ganglion. After the operation: Contraction of the pupil and of the coloboma iridis; perceptible reduction of intraocular tension; disappearance of pain; reads ordinary type and letters. The improvement remains and continues. Nine months after the operation neither pain nor exacerbations have appeared. Patient reads and writes with ease. The general condition is good.

CASE 5.—Basedow's disease for six years, chronic simple glaucoma for one year: man, aged twenty, from Freiberg, in Saxony. Double iridectomy without result. Goiter, tachycardia (pulse-rate 120-130), tremor, exophthalmos, sweat and feeling of heat. Complete atrophy of the left pupil.¹ Sight of left eye entirely lost; the right counts fingers at

¹ Literal translation.

scarcely 40 cm. Operated December 16, 1897; total bilateral resection of the cervical sympathetic—*i. e.*, the three ganglia and the connecting strands. After the operation: reduction in the intraocular tension; disappearance of exophthalmos and narrowing of the coloboma iridis; pulse, 90; vision improved; counts fingers at one meter, and can recognize the figures of a watch at 20 cm. The improvement continued from day to day. On February 2, 1898, this patient could read test types at a distance of 80 cm.; the goiter is smaller (circumference of neck is 39 cm. instead of 42½, before operation). Later the patient sees letters of 8 cm. at a distance of 1 m. 30 cm. The accompanying phenomena of the goiter have disappeared.

CASE 6.—Absolute simple chronic glaucoma of one eye: woman, aged forty-five. Double iridectomy. Evident hypertonia. On left side there is complete atrophy of the strongly excavated papilla; no trace of light perception; counts fingers at 15 cm. Operated January 25, 1898; resection of right superior cervical ganglion. After the operation (report of the oculist, Dr. Kugel, who sent me the patient): "Two weeks after operation, when I examined the patient, I could determine that the fingers were counted at 1 m. 50 cm. Three weeks thereafter the vision improved so much that the patient could count fingers at 2 m. 75 cm. The intraocular tension is diminished. Pulsation of the central retinal artery is absent." The improvement became more apparent, so that on April 8th the patient, quite changed, was discharged.

CASE 7.—Acute glaucoma (diagnosed by my colleague, Prof. Manolesco): woman, aged thirty. Marked hypertonia. Muddiness of the aqueous humor prevented examination of the fundus. Pupil dilated. Periorbital pain and headache. Vision lost in left eye, right variable. Often fingers were counted at 1 m. 50 cm.; at other times they were not recognized at the slightest distance. Marked excavation of the left papilla. Operated April 4, 1898; bilateral resection of the superior cervical ganglion. After the operation: diminution of intraocular tension; incomplete contraction of the pupil; undoubted relief of pain; no change in the sight.

CASE 8.—Chronic simple glaucoma: man, aged fifty-four, from Hungary. Right eye entirely lost in his sixteenth year in consequence of a shot. For seven years the patient has seen a rainbow around every object. Iridectomy in 1897 improved the vision for one month. Superior coloboma. Pigment spots on anterior capsule. Excavation of the papilla is visible. Vision: Snellen's No. 30 at 2 m. After operation, eyeball softer. Patient declares that he no longer sees a rainbow around the light.

I have therefore operated on the following cases: One case of acute glaucoma (7), three cases of absolute chronic irritative glaucoma, and three cases of chronic simple glaucoma. The result of these operations can be summarized as follows: (*a*) Lasting reduction of intraocular tension in all cases, particularly in five (1, 4, 5, 6, 8); (*b*) energetic (1) or noticeable contraction of the pupil, which remains lasting, occurring as well in the cases in which iridectomy had been made previously; (*c*) disappearance of periorbital pain; (*d*) disappearance of attacks of irritative glaucoma; (*e*) considerable and lasting improvement in vision in all cases in which the existence of light perception and visual acuity remained, showing that the papilla is not entirely atrophic. This improvement was surprising in

its rapidity and its increase by degrees, particularly in cases of chronic glaucoma simplex (5 and 6), and in a case of chronic irritative glaucoma (4); it was absent in two cases of absolute chronic irritative glaucoma (2 and 3), and in one case of acute glaucoma (7). It must be observed, however, that case 7 is too recent to permit an opinion to be given as to the definite result.

In view of the results reported, we will attempt to explain how glaucoma is influenced by resection of the cervical sympathetic.

The rôle of the nervous system in the pathology of glaucoma has been studied for a long time, and to-day we turn to the nervous system in the hope of finding here the solution of that difficult problem, viz., the pathology of glaucoma.

It is true that Professors Panas and Duvigneaud² have taken for granted, and rightfully so, that "if the nervous mechanism of intraocular secretion, or, to speak without hypothesis, the action of the nervous system upon intraocular tension can become known, the pathology of glaucoma will be cleared up, the action of iridectomy will be explained, and perhaps a new and scientific basis for the treatment of glaucoma will be established." A series of observers has sought this mechanism. Thus Donders attributed the hypertension to a neuro-secretory cause, and believed the trigeminus to be the agent of this excessive secretion. Section of the trigeminus should relieve increased intraocular tension, whilst section of the cervical sympathetic could have no particular influence.³

The more recent (1866) researches of Wegner, made upon rabbits—he sought to record variations of intraocular tension by means of manometers placed in the anterior chamber—have proved that the trigeminus takes no part, while section of the cervical sympathetic calls forth hypotonia; and irritation of its upper end twice in four times occasioned a transient hypertonia.

According to Wegner, section of the cervical sympathetic enlarges the blood-vessels of the eye; the blood then flows under reduced pressure and intraocular secretion is lessened. This reduction of intraocular tension is great enough to exceed the increase of tone occasioned by the enlargement of the vessels.

Almost identical results were obtained by Adamück (1866 to 1868), who experimented on cats and rabbits, and arrived at these conclusions: irritation of the cervical sympathetic causes a transient increase of intraocular tension, which soon disappears. The transient increase of intraocular tension, according to Adamück, should be attributed to the irritation of the sympathetic, which causes a transient contraction of the vessels of the head; hence, the increase of tension in the territory supplied by the carotid. Alone, because the ocular tension is parallel with that of the blood, does it come about that the increase of tension in the carotid system compensates and overcomes the hypotonic effect brought about by constriction of the ocular arteries. Soon thereafter the constriction of the ocular arteries produces a diminution in the amount of blood in the eye; hence, hypotonia.

Von Hippel and Gruenhagen believe that vaso-constrictor filaments of

² Panas et Rochon-Duvigneaud, *Recherches anatomiques et cliniques sur le Glaucome*, Paris, 1898, page 60.

³ *l. c.*, page 57.

the eye are contained in the cervical sympathetic; in dogs and cats an irritation of the middle part causes an increase of ocular tension. According to these authors, one must thus explain that the irritation of the cervical sympathetic produces a contraction of the unstriated fibers of the orbit to which also belong those of the eyeball, and compresses the efferent venous vessels of the eye, so that this hypertonic action surpasses that hypertonia produced by the contraction of the intraocular vessels.

Finally, according to these authors, irritation of the upper end of the cervical sympathetic causes in the cat a hypotonia, while its extirpation increases intraocular tension. The results obtained and the different explanations offered by these experimenters have been challenged. While according to one (Wegner) the hypotonic action proceeds from the enlargement of vessels caused by cutting the cervical sympathetic, and the contraction of the blood-vessels caused by irritation of the nerve produces a hypertonic action (Wegner), by others (Adamück, v. Hippel, Gruenhagen) the contrary view is held.

Be this as it may, this much is certainly determined: that no great rôle in the production of ocular tension can be attributed to the trigeminus, which furthermore must be concluded on account of inefficiency of Badal's operation (elongation or resection of the nasal nerve), while a rôle which is undoubted must be given to the cervical sympathetic. Finally, my operations have made it entirely clear that resection of the superior cervical ganglion has as a sequel a more or less strongly marked reduction of intraocular tension.

I believe that resection of the superior cervical ganglion has such a tension-reducing property that the ocular sympathetic fibers descending from the brain or spinal cord must pass to this ganglion before reaching the eye. These fibers ramify, as is known, in the muscle of the iris, in the entire uveal tract, in the blood-vessels of the eye, and the peribulbar unstriated muscle-fibers contained in Tenon's capsule.

Their permanent or intermittent irritation, be it peripheral or central, is accompanied by the following phenomena: dilatation of the pupil, narrowing of the small intraocular arteries, energetic contraction of the peribulbar muscular apparatus, and probably an increased action of the elements which produce the aqueous humor, so that on the one side there is an increase of intraocular secretion; on the other a hindrance to the free flow of secretion from the eyeball; hence, the increase of intraocular tension—*i. e.*, glaucoma.

As a matter of fact, any increase of the blood-pressure will produce a permanent or intermittent narrowing of the arteries, and cause extravasation and increase in aqueous humor; then, it is probable, although not yet definitely settled, that a permanent or intermittent irritation of the excito-secretory fibers is followed by an increase in the secretion of aqueous humor; the permanent or intermittent dilatation of the pupil pushes the iris into the iris-angle, closes the canals of the filtration zone and hinders or prolongs the exit of aqueous from the eye; the permanent or intermittent contraction of the unstriated peribulbar muscular fibers closes the efferent veins of the eyeball and hinders the venous circulation of the eye—hence, the dilatation of the intraocular veins.

These processes being understood, we are in position to understand

how resection of the superior cervical ganglion brings about hypotonia and with it the disappearance of all glaucomatous symptoms.

The excision of the ganglion destroys all vaso-constrictor fibers of the eye, so that the arteries relax, the blood-pressure is lowered, and extravasation is reduced; it destroys the excito-secretory fibers so that the secretion of aqueous humor is reduced; it destroys the fibers which dilate the iris, so that the pupil becomes strongly contracted, the iris-angle and excretory canals are opened, and the aqueous finds an easy exit; finally, it destroys the tension of the fibers of the unstriated peribulbar muscle, thus making possible a relaxation of this muscle; the pressure on the veins is removed and the ocular circulation restored.

Thus I explain the rôle of the cervical sympathetic in the production of glaucomatous changes, as well as the manner of relief after excision of the ganglion.

All these suppositions are founded upon classical facts in physiology, which can supply the evidence that these are always exact; for, above all, even in physiology, things are not immutable. After all, the results obtained by myself by means of these operations show sufficiently what a powerful influence is to be attributed to the cervical sympathetic in glaucoma, and the fact remains regardless of the mechanism. However, as regards the starting point of the nervous derangement which produces the phenomena of glaucoma, I believe it already appears to be not peripheral but central. The question is, in short, whether it is an irritation of the encephalon or medullary centers, whence the ocular filaments of the sympathetic descend which pass through the superior cervical ganglion before they reach the organ. When one removes the ganglion the point of origin of the influence will not be removed, but the communication between this center and the eyeball is destroyed.

In order to pass judgment upon the indications for this operation the different forms of glaucoma must first be specified in which the nervous influence seems to play the chief part. Relying upon the operated cases, I can declare that those of acute glaucoma, chronic irritative glaucoma with acute attacks and chronic irritative glaucoma that develops from a glaucoma prodromalis, are less favorable for treatment, while the results are better in chronic irritative glaucoma without prodromes, and particularly in chronic simple glaucoma. That is, according to my views, to be explained by the fact that in the first case, besides the original nervous symptoms, we have an inflammation which cannot be influenced by resection of the sympathetic, while in both the latter forms the nervous disturbances are predominant.

Moreover, this corresponds with the results obtained by iridectomy in the treatment of glaucoma. Von Graefe's operation furnishes good results in acute glaucoma and in chronic irritative glaucoma with prodromes, while it is less useful in simple chronic glaucoma (v. Wecker); whereas, as v. Wecker himself states, as soon as the glaucoma shows no phenomena of inflammation, in chronic simple glaucoma brilliant results are not so likely to be obtained. And as von Graefe himself said, it is only in something more than one-half of these cases that iridectomy restores normal tension and improves vision. According to v. Wecker, iridectomy in simple chronic glaucoma in thirty per cent. of the cases does not check the prog-

ress of the disease, in thirty per cent. the result is favorable, while in the remaining forty per cent. von Graefe's operation can check the disease for a time only, without lasting result and without improvement in vision.

Also, iridectomy is safer and curative only in acute non-hemorrhagic glaucoma, while in the chronic forms, particularly in glaucoma simplex, it produces either only transient effects or, in part of the cases, no result whatever (v. Wecker).

From the preceding observations it is clear that the resection of the superior cervical ganglion of the sympathetic nerve was valuable in exactly those cases in which iridectomy is not of value. We are also warranted in expecting good results in those cases of chronic irritative glaucoma and simple glaucoma, without, however, excluding the other forms of glaucoma with the single exception of the hemorrhagic form, where the operation could only increase the symptoms, and absolute glaucoma, where the vision is forever lost.

So much for the results of my operation. Surely, when verified by means of a greater number of cases, by deeper study and by longer observation, this opinion will be either confirmed or refuted. I will now describe the operation:

There can be no doubt about what part of the sympathetic to resect. All ocular fibers of this nerve pass through the superior cervical ganglion before they end in the eye; this ganglion must then be removed in order to destroy the entire sympathetic nerve apparatus of the eye, with the exception of the cerebral fibers which run directly in the trigeminus and anastomose with the former in the eyeball. Simple section of the sympathetic nerve in the neck can give no complete result, since such an operation, except it were made above the superior ganglion (which would be most difficult to accomplish), would leave a mass of sympathetic fibers untouched. And since the superior ganglion forms a small peripheral nerve-center, its activity would not be checked by simple section. There are two methods of procedure for the removal of this ganglion: the one in front, the other behind the sterno-cleido-mastoid muscle; the first I employ in total resection of the cervical sympathetic, while the latter is preferred for removal of the superior ganglion. The pre-mastoid route is undoubtedly much simpler, causes less injury, and hence is to be preferred.

The operation may be divided into four stages:

1. The cutaneous incision begins at the upper angle of the inferior maxilla and extends along the anterior border of the sterno-mastoid.

2. The anterior border of the sterno-mastoid muscle is freed. After cutting the skin, superficial cervical muscles and superficial fascia, the anterior border of the sterno-mastoid is freed by means of a grooved director and the muscle is drawn outward and backward by a retractor; by a grooved director the deep layer of the aponeurotic sheath of the muscle is cut and then a second retractor is used on the inner lip of the wound, to draw the larynx inward. This brings the operator to the bundle of vessels and nerves.

3. The identification, separation and exsection of the superior cervical ganglion. After the anterior wall of the vascular bundle has been cut, one aims to draw the internal jugular vein outward, and the internal carotid artery and vagus nerve inward by means of retractors. In the space

thus made one finds the superior cervical ganglion easily; then by means of the grooved director the deep wall of the carotid sheath and the prevertebral fascia are opened. Isolated by means of the director and seized with forceps, the ganglion is followed from below upward. Then by means of the index finger it is carefully separated from the surrounding structures, all afferent and efferent fibers are cut by means of blunt curved scissors. When this is accomplished, the ganglion is attached only by the nerve-strand which forms its continuation above; a strong pull is made, and the ganglion is torn out. A cut is made below, and the excision is completed.

The operation described makes the complete removal of the ganglion possible; it is bloodless, and permits the fibers of the superior cervical plexus and the external branch of the spinal accessory nerve to be spared.

4. Closure of the wound is divided into two steps: First, the border of the sterno-mastoid is united to the deep cellular tissue by means of three or four catgut sutures; the superficial part of the wound is closed by means of fine catgut. The wound is not drained.

The bilateral operation can be made in fifteen minutes. The results of the operation are trifling; the bandage is removed on the sixth day. Union is ideal only if an aseptic operation has been made.

After the operation one observes congestion of the conjunctiva, of the eye, the nose, lachrymation, considerable nasal secretion, heaviness of the head, all phenomena which immediately disappear on the first day. The remaining effects upon the eye are contraction of the pupil, already mentioned, sinking of the eyeball in the orbit, drooping of the upper eyelid, and narrowing of the palpebral fissure.

The therapeutic results are an immediate reduction of intraocular tension; there follows immediately, or within a few days, an improvement in vision, which increases from day to day. The periorbital pain and headache disappear. Frequently after the operation these patients complain of a heaviness in the head, which is probably to be attributed to the removal of the ganglion producing congestion of the brain, which should not be confounded with the glaucomatous pain. In many cases a slight dysphagia appears after this operation, and during chewing there is pain in the cranio-mandibular articulation, which are unimportant symptoms as they soon disappear completely.

In conclusion, it is clear to me that the following propositions are true:

1. The importance of the cervical sympathetic in the production of glaucoma, with the exception of the hemorrhagic form, is evident from these operations.

2. The sympathetic nervous system of the eye is continuously or temporarily irritated from the center, or from a center in the trunk of the sympathetic of the eye.

3. The resection of this ganglion through which all the fibers pass paralyzes them and annuls all ocular effects depending upon them.

4. One can argue about the mechanism of post-operative hypotonia, but the fact remains undisputed.

5. The best results are to be expected in those cases in which inflammation and irritation are not present or are not strongly marked.

6. Alone because the undertaking is by no means serious, one must attempt this operation in all forms of glaucoma, even in those accompanied

by severe pain, cases of absolute glaucoma, where the pain has a tendency to disappear after the operation. The improvement of symptoms occurs at once after the operation or later; in all cases it is progressive.

7. This operation can be successful even in those cases in which, in spite of previous iridectomy, the disease progresses—*i. e.*, in all cases in which the well-known operation guarantees no effect.

8. The occurrence of Basedow's disease and glaucoma at the same time, as in one of our cases, speaks for the influence of the permanent irritation of the cervical sympathetic wholly or only partly upon the occurrence of glaucoma. The resection of the cervical sympathetic cures Basedow's disease, a disease caused by the permanent irritation of these nerves. The removal of these nerves brings about the disappearance of these disturbances.

NOTE BY THE TRANSLATOR.

There is no doubt in my mind as to the value of Professor Jonnesco's discovery. I have removed the superior cervical ganglion three times for glaucoma, with remarkably beneficial results. My first operation, made May 15, 1899, was for absolute glaucoma with pain. The operation was for the purpose of relieving pain, and this result was accomplished. It is unnecessary for me to state that in such cases sympathectomy is preferable to enucleation. On June 15th I removed the left superior cervical ganglion in a case of chronic simple glaucoma. Before the operation vision of the left eye was only light perception. To-day, July 7th, this patient counts fingers at seven feet!

J. M. B.

PNEUMONIA CONSECUTIVE TO TYPHOID FEVER, WITH REPORT OF A CASE AND REMARKS UPON THE BACTERIOLOGY OF THE DISEASE.

By R. B. H. GRADWOHL, M. D.,

Bacteriologist to the St. Louis City Hospital, St. Louis, Missouri.

IN VIEW of the fact that the terms "typho-pneumonia," "typhoidal pneumonia," and "pneumo-typhus" are often used synonymously and so incorrectly, it seems not amiss in this place to throw some light upon the above nomenclature and thereby arrive at a correct appreciation of the subject-matter before us. It is held by most observers, among whom we may count Osler and Strümpell, that there is a form of croupous pneumonia with marked "typhoid" symptoms—*i. e.*, delirium, great weakness, sometimes diarrhoea and, rarely, rose spots—but with no gross intestinal lesions, no Widal reaction, etc. In other words, it is an attack of genuine croupous pneumonia with a marked degree of toxemia, with severe general symptoms referable to the local onslaught of the micrococcus lanceolatus, but without any relation whatsoever to a specific attack of typhoid fever caused by the bacillus typhosus. This form has been described by the misnomer "typhoid-pneumonia." On the other hand, there is a form called by the French and Germans "pneumo-typhus." It is characterized by a sudden onset with all the subjective and objective signs of lobar pneumonia, and after the crisis we have the symptoms of typhoid fever

coming to the surface—rose spots, diarrhœa, etc.¹ This form is caused by a mixed infection of the micrococcus lanceolatus and the bacillus typhosus.

Again, there is a third variety where pneumonic signs appear after the appearance of typhoid symptoms. In a recent communication before the Society of Internal Medicine of Berlin, M. A. Frankel² has given a concise classification of all such cases, and I can do no better than to paraphrase his words: he divides these cases into three groups. In the first group he places cases of pneumonia which are accompanied by typhoid symptoms, irregular fever, diarrhœa, comatose state, etc. He remarks that if in these cases the consolidation is central and so physical signs are obscured, the diagnosis becomes very difficult. He called attention to one case of this kind where the Widal's sero-diagnostic test was negative and where diagnosis was made only at autopsy. In the second group he places those cases of frank lobar pneumonia which arise in the course of typhoid fever. They are extremely rare, Frankel having observed but six cases in over five hundred cases of typhoid fever which he had occasion to see.

The third group comprises those cases where in the course of an attack of typhoid fever a pneumonia caused by the bacillus typhosus is set up. Frankel says further that pleuro-pneumonia often develops in the course of the fifth week of typhoid fever, and that aspiration will evacuate a purulent exudate containing the bacillus typhosus in pure culture, and that autopsy later will reveal the presence of an interstitial pneumonia. Fibrinous pleurisy occurred in forty of the two thousand Munich cases.³

The case which I desire to record falls under Frankel's third classification. It is a case of typhoid fever with a complication in the shape of acute lobular pneumonia. The clinical history and autopsy report follow.

CLINICAL HISTORY COMPILED AT ST. LOUIS CITY HOSPITAL.

Admitted Wednesday, June 14, 1899, Welborn, Robert M.; age, twenty; nativity, Nebraska; diagnosis on permit, typhoid fever; occupation, laborer; social condition, single.

June 16th.—Habits.—Uses tobacco and drinks liquor moderately.

Family History.—Mother living, good health; one brother and one sister, good health; father died from "heart" disease.

Previous Diseases.—Measles, scarlatina, malaria; has otherwise had good health; never had typhoid fever.

Present Trouble.—Began feeling bad about two weeks ago while working at Little Rock, Arkansas, on a bridge; was compelled to give up the job. Disease began gradually with headache, pains in legs and back, felt indisposed to do anything; was compelled to go to bed. Began having fever, pains in abdomen, diarrhœa, etc. He came to St. Louis and was held in isolation for four days.

Examination.—Man, medium height, well nourished, face flushed, countenance blank, teeth covered with sordes—only to slight extent, tongue dry and showed evidence of being scraped, respiration increased; temperature 103.8° F.

¹ Osler: Practice of Medicine.

² Frankel: *La Tribune Medicale*, March 8, 1899. Second series, No. x.

³ Osler: *Loc.cit.*

Digestive Apparatus.—Loss of appetite, tenderness over abdomen, more marked in right iliac fossa and over spleen, which can be palpated below free margin of ribs. Liver reaches to free margin of ribs, abdomen distended and tympanitic, maculo-papular eruption found on abdomen of a rose color, disappearing on pressure.

Respiratory Apparatus.—No change on percussion, mucus and subcrepitant rales heard over chest, respiration increased, coughs at times but expectorates nothing.

Circulatory Apparatus.—First heart sound muffled, action increased, pulse dicrotic and weak, patient is fairly intelligent, is delirious most of time, has twitching and trembling of muscles. Widal's test positive; carpology present.

Urinalysis.—Sp. gr. 1016, acid reaction, straw color, heavy ring of albumin, no casts found; Diazo reaction; quantity diminished.

Diagnosis.—Typhoid fever.

Treatment.—Salol, ol. turps., strychnine sul., sp. frumenti, cold pack, milk diet.

June 18th.—Patient delirious and groaning most of the time; voids urine in bed unconsciously; temperature runs very high—to 105.4; coughs considerably, expectorating thick, dark-colored mucus; posterior part of lungs congested; abdomen tympanitic and distended.

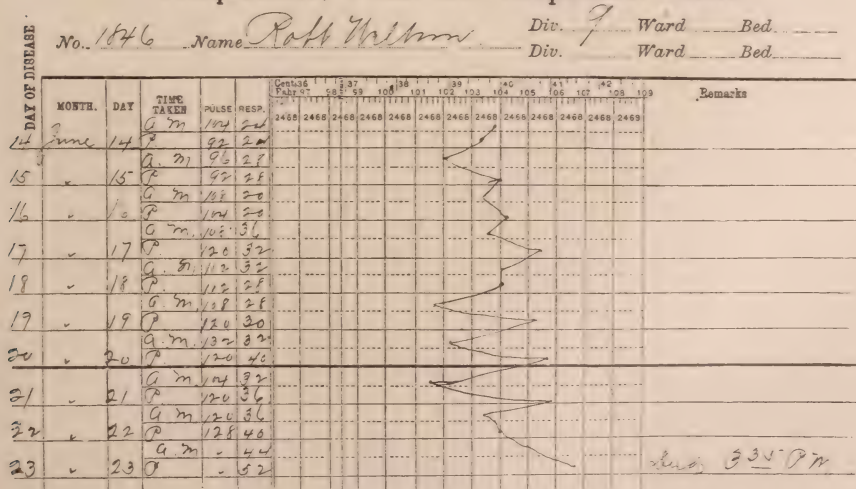
June 20th.—No improvement; bowels move freely; patient delirious all the time; pulse weak; respiration rapid; expectorates thick, dark-colored mucus; harshened respiratory note, covered by rales.

Urinary Analysis.—Acid reaction, amber-color, sp. gr. 1018, albumin, hyaline and granular casts, cells, etc., Diazo reaction positive.

June 21st.—Same as above; rested fairly well this A. M.; temperature runs high; abdomen tympanitic and distended; stools contain undigested matter; peptonized milk given; pulse very weak.

June 23d.—Condition worse; is in a semi-comatose condition; tympanitis marked; moans and groans all the time; pulse weak and irregular; respirations hurried. Patient died at 3:35 p. m.

Temperature, Pulse and Respiration Chart.



ORIGINAL ARTICLES.
CITY HOSPITAL.

BEDSIDE NOTES.

Name, ROBT. WELBORN.

Hour	T	R	P	U	D	Medicine	Nourishm't	Orders and Remarks
June 14								
11.30 a.m.	103.8	24	104					Cold pack, 103. 1 p.m.
3.00 p.m.	103.4	24	92					Cold pack, 104. 4 p.m.
9.00 p.m.	104.	36	100					Cold pack, 103.4
12.00 p.m.	104.4	36	104					Cold pack, 102.4
June 15								
3.00 a.m.	102.	28	96					
6.00 a.m.	102.8	28	92					Cold pack, 101.6
9.00 a.m.	101.2	24	84					
12.00 m.	102.8	32	104					Cold pack.
2.00 p.m.								104.
3.00 p.m.	104.	28	92					Cold pack.
6.00 p.m.	105.	28	104					Cold pack, 103.
9.00 p.m.	102.	24	104					
June 16								
12.00 p.m.	101.8	32	104					
3.00 a.m.	103.4	28	108					Cold pack, 102.2
6.00 a.m.	102.	32	100					
9.00 a.m.	104.	34	100					Cold pack, 103.6
12.00 m.	104.	32	104					Cold pack, 104.
3.00 p.m.	104.2	32	104					Cold pack, 104.4
6.00 p.m.	102.	32	104					
9.00 p.m.	103.4	36	108					Cold pack, 102.4
12.00 m.	103.	32	104					Cold pack.
9.00 p.m.	103.4	36	108	1		Salol, 10 gr.		Cold pack reduced to 102.4
12.00 p.m.	103.	32	104			Strych. sul. gr. $\frac{1}{32}$	Ev. 3 hrs.	Cold pack reduced to 102.
June 17								
3.00 a.m.	103.8	36	108	1	1	Spts. fru., 20 c.c.		Cold pack reduced to 103.8
6.00 a.m.	103.8	32	104				Milk, 4 oz. three times	Delirious and restless and was nauseated; coughed frequently.
7.30 a.m.						Salol, 10 gr. Frumenti, 20 c.c. Strych., 1-20 gr. Turp., 8 gtt. Spts. frumenti, 20cc.		Moaned most of time.
9.00 a.m.	104	32	108				Milk, 5 oz.	
9.30 a.m.								Cold pack, 103.4
11.00 a.m.				1	1	Medicine		
12.00 m.	104.2	36	108				Milk, 5 oz.	Cold pack, 103.5
2.00 p.m.						Medicine		
3.00 p.m.	105.4	32	120				Milk, 5 oz.	Cold pack, 104.8
5.00 p.m.						Medicine		
6.00 p.m.	105.	28	108				Milk, 5 oz.	Cold pack, 104.8
9.00 p.m.	104.8	36	120	1		Medicine	Milk, 4 oz.	Cold pack, 104.
11.00 p.m.						Medicine		
June 18								
12.00 p.m.	104.							High enema of ice water, 104.
1.00 a.m.				1	1		Milk, 4 oz.	
2.00 a.m.						Medicine		Moaned all night.
3.00 a.m.	104.	32	112		1		Milk, 4 oz.	Cold pack, 103.
5.00 a.m.						Medicine		
6.00 a.m.	103.	28	108		1		Milk, 4 oz.	
7.00 a.m.						Medicine		
9.00 a.m.	104.9	32	128	1	1		Milk, 5 oz.	Cold pack, 104.
10.00 a.m.						Medicine		
12.00 m.	104.6	30	120				Milk, 5 oz.	
1.00 p.m.				1		Medicine		
2.00 p.m.						Quinine, 20 c.c. Frumenti, 20 c.c.		Cold pack, 104.
3.00 p.m.	104.	28	112				Milk, 4 oz.	Restless and moaning all day
4.00 p.m.				1		Medicine		Coughed.
6.00 p.m.	105.6	36	124				Milk, 5 oz.	Cold pack, 102.
8.00 p.m.					1	Medicine		
9.00 p.m.	103.						Milk, 4 oz.	
11.00 p.m.				1		Medicine	Milk, 4 oz.	

CITY HOSPITAL.

BEDSIDE NOTES.

Name, ROBT. WELBORN.

Hour	T	R	P	U	D	Medicine	Nourishm't	Orders and Remarks
June 19								
12.00 p.m.	104.	32	132	1	1	Medicine	Milk, 4 oz.	Cold pack, 101.6
2.00 a.m.								
3.00 a.m.	101.6	28	108				Milk, 4 oz.	Moaned less than usual.
4.30 a.m.						Medicine		
5.00 a.m.								Slept nearly 2 hours this a.m., bet. 2 and 4.
6.00 a.m.	103.8	32	108					
6.15 a.m.							Milk, 4 oz.	
7.30 a.m.				1	1			
8.00 a.m.						Medicine		
9.00 a.m.	103.4	32	104				Milk, 4 oz.	Cold pack, 102.6
10.15 a.m.							Lemonade	
11.00 a.m.					1	Medicine		
12.00 m.	104.2	34	120				Milk, 5 oz.	Cold pack, 12.45 p.m., 104.
1.00 p.m.							Lemonade	
2.00 p.m.						Medicine		
3.00 p.m.							Milk, 4 oz.	
3.30 p.m.	105.2	30	120					Cold pack, 104.8
5.00 p.m.				1	1	Medicine		
6.00 p.m.	105.2	30	118				Milk, 5 oz.	Cold pack, 103.
8.00 p.m.					1	Medicine	Milk, 4 oz.	
9.00 p.m.	104.2	32	120					
11.00 p.m.				1		Medicine	Milk, 4 oz.	
June 20								
12.00 p.m.	104.8							Cold pack, 102.2
					1			
2.00 a.m.						Medicine	Milk, 4 oz.	
3.00 a.m.	102.2	32	132	1				
5.00 a.m.				1	1	Medicine	Milk, 4 oz.	
6.00 a.m.	104.	32	124					
8.00 a.m.						Medicine		Cold pack, 103.
9.00 a.m.	103.	32	120	1			Milk, 5 oz.	
11.00 a.m.					1	Medicine		
12.00 m.	105.4	50	130	1			Milk, 4 oz.	Cold pack, 104.3
2.00 p.m.						Medicine	Lemonade	
3.00 p.m.	105.6	40	120				Milk, 5 oz.	Cold pack, 104.7
5.00 p.m.				1	1	Medicine		
6.00 p.m.	105.2	44	120				Milk, 4 oz.	
8.00 p.m.						Medicine		
9.00 p.m.	106.							Ice water enema, 106.
								Cold pack, 103.2
11.00 p.m.				1	1	Medicine		
June 21								
12.00 p.m.	103.	34	14				Milk, 4 oz.	
2.00 a.m.						Medicine		
3.00 a.m.	104.6			1	1			Cold pack, 101.6
5.00 a.m.						Medicine		
6.00 a.m.	101.6	32	104					
6.30 a.m.							Milk, 4 oz.	Rested fairly quiet all night
8.00 a.m.				1		Medicine		
9.00 a.m.	104.	32	116					Cold pack, 104.
11.00 a.m.						Medicine	Lemonade	
12.00 m.	104.6	30	118	1			Milk, 5 oz.	Cold pack.
2.00 p.m.						Medicine		
3.00 p.m.	104.5	36	120				Milk, 5 oz.	Cold pack.
5.00 p.m.						Medicine		
6.00 p.m.	105.2	48	120		1			Cold pack, 102.6
8.00 p.m.						Medicine		
9.00 p.m.	104.	36	120				Milk, 4 oz.	Cold pack, 101.2
11.00 p.m.				1	1	Medicine	Milk, 4 oz.	

CITY HOSPITAL.

BEDSIDE NOTES.

Name, ROBT. WELBORN.

Hour	T	R	P	U	D	Medicine	Nourishm't	Orders and Remarks
June 22								
12.00 p.m.	101.2					Medicine.....	Milk, 4 oz.	
2.00 a.m.								
3.00 a.m.	103.4	36	120					Cold pack, 101.
5.00 a.m.						Medicine.....		
6.00 a.m.	101.6						Milk, 4 oz.	Rested quietly most of time.
8.00 a.m.				1		Medicine.....		
9.00 a.m.	103.2	34	120				Milk, 5 oz.	Cold pack, 103.2
11.00 a.m.				1		Medicine.....		
12.00 m.	103.6	40	124				Milk, 3 oz.	
2.00 p.m.				1	1	Medicine.....		
3.00 p.m.	104.	40	128	1			Milk, 4 oz.	Cold pack, 103.6
5.00 p.m.					1	Medicine.....	Milk, 4 oz.	
6.00 p.m.	105.	90	126					Cold pack, 103.6
8.00 p.m.						Medicine.....	Milk, 4 oz.	
9.00 p.m.	105.			1				Sponge bath, 104.4
11.00 p.m.					1	Medicine.....	Milk, 4 oz.	
June 23								Pulse weak.
12.00 p.m.	105.	40	120					Sponge bath, 104.6
2.00 a.m.						Medicine.....	Milk, 4 oz.	
3.00 a.m.	105.	44			1			Sponge bath, 103.6
5.00 a.m.						Medicine.....	Milk, 4 oz.	
6.00 a.m.	103.4							Restlessness and moaned all night.
8.00 a.m.				1		Medicine.....		
9.00 a.m.	106.	40		Cath*		Tr. digitalis, 1 c.c.		
						Frumenti, 10 c.c.		
11.00 a.m.	106.	44	140			Medicine, order 23d		Cold sponge every half hour
11.30 a.m.						Sulphonol and milk		
1.00 p.m.	105.8							
2.00 p.m.						Medicine.....		

*Catheterized.

POST-MORTEM REPORT ON ROBERT WELBORN, JUNE 24, 1899.

Young white man; age, twenty; long stature; well muscled; subcutaneous tissue well retained; abdomen greatly distended; skin mottled; hemorrhagic area in subcutaneous tissue; muscle substance is of a bright-red color. Liver not seen; stomach greatly distended; small intestine also greatly distended; peritoneum retains luster; omentum contains no fat; abdominal viscera of a peculiar gray color; abdominal cavity contains no abnormal contents; diaphragm extends to fourth interspace on right side, fifth rib on left side; red circumscribed areas on peritoneal covering of part of small and large intestines; appendix hangs free; gall-bladder only part filled; lungs approximate, not retracted; left pleura firm; adhesions; small quantity purulent fluid in left pleural sac; no pleuritic adhesions on right side.

Pericardium contains an increased amount of serous fluid; heart large; apex formed by left ventricle; right ventricle contains an organized clot; auricle contains liquid blood and organized clot; left ventricle contains fluid blood and organized clot; left auricle fluid blood; tricuspid orifice admits three fingers; mitral orifice admits two fingers; aorta somewhat narrow; left ventricle dilated; muscle substance of heart flabby; acute myocarditis; both lungs show areas of acute lobular pneumonia.

Spleen greatly enlarged—about three times normal size and weight; pulp soft—not friable; left kidney large, soft and flabby; fatty capsule, not very extensive; tunica propria removable with ease; congenital markings obscured; cortex is wide; right kidney same as left; mesenteric glands characteristically enlarged; liver large, broad and flat; substance friable; free margin; rounded; acute par. nephritis; the mucous surface of ilium shows ulceration of regular and irregular outline, edges of same presenting hemorrhagic infiltrations; ulcerations become more frequent as the cæcum is approached; ulcerations involving Pyer's patches are elongated, long axis being parallel to the lumen of intestine.

Anatomical Diagnosis.—Typhoid fever; acute lobular pneumonia; acute parenchymatous nephritis; myocarditis parenchymatosa; pleuritis fibrinosa et suppurativa.

BACTERIOLOGICAL REPORT.

Inoculations were made from the spleen, lung and pleuritic exudate. In each instance the bacillus typhosus was recovered in pure culture, inoculations being made under sterile and aseptic precautions. The inoculations were made upon the "Hiss" special medium. I will make mention of this medium later on. Ordinary smear preparations from the spleen and lung gave a micro-organism morphologically identical with the *B. typhosus*.

Blood obtained by squeezing the splenic tissue produced the characteristic clumping of the *B. typhosus*. It was noticed that clumping of the micro-organisms occurred very quickly when they were grown in a nutrient bouillon to which a few drops of the splenic blood were added at the time of inoculation of the tube. The same phenomenon occurred if splenic blood was added to a bouillon-tube in which the bacilli were full-grown. This then seemed to be an example of agglutination or of the Widal test "on a large scale." Control tubes were inoculated in these several instances in order to exclude the possibility of "spontaneous" clumping, which sometimes occurs. After remaining in the incubator from six to eight hours the bouillon tubes were placed in the ice-chest over night and the above phenomena noted on the following day. In no instance was spontaneous clumping noted. It was also noted that the motility of the typhoid bacilli was not very active when they were sown in the bouillon diluted with splenic blood, as above described. I have never seen any similar phenomena noted in connection with the motility of the typhoid bacillus in the literature upon the subject.

It may be well to speak of the extreme difficulty that formerly fell to the lot of bacteriologists in their attempts at differentiating the *B. typhosus* from the *B. coli communis*. Fortunately, things have changed in that regard, and it is now comparatively easy to differentiate these "two Dromio-like" micro-organisms. Although most of the books upon bacteriology have pointed out well-marked points of difference in the biological behavior of these micro-organisms, it is found by practical experience that these differences do not always exist. The following points of difference are usually noted:

Motility.—*B. typhosus* is actively motile; the *B. coli communis* not motile or exceptionally motile.

Potato Culture.—The *B. typhosus* usually grows invisibly; the *B. coli communis* as a dirty, slimy layer.

Gas-Production in Media Containing Glucose.—The *B. coli communis* produces gas; the *B. typhosus* does not.

Litmus-Milk Cultures.—The *B. coli communis* changes the blue color of the medium to a pink color, and usually coagulates the milk; the *B. typhosus* produces no visible change.

Indol-Production.—The *B. coli communis* produces indol; the *B. typhosus* does not.

Agglutination.—The *B. typhosus* shows the "clump" reaction, while the *B. coli communis* does not.

Growth in Media.—The *B. typhosus* has a slower and less vigorous growth in culture-media than the *B. coli communis*.

With such an array of differential tests before us, it would seem that the detection of the *B. typhosus* in admixture with the *B. coli communis* is a matter of the greatest ease. However, when we come to work with these micro-organisms in the laboratory, we find that there are many exceptions to the general rule; that, for instance, we may find a colon bacillus with active motility and a typhoid bacillus which has no motility at all; that we may find a typhoid bacillus exceptionally giving the red color to blue litmus-milk; in short, the exceptions to the above rules robbing them of nearly all their value as differential tests.

As for the classical description of the appearance of isolated colonies of the *B. typhosus* and the *B. coli communis* as a means of differentiation, we may say that but little value can be attached thereto because there has been such a great disparity in the preparation of culture-media by various observers, and it is a well-established fact that the appearance of an individual colony of any bacterium is widely different in media of different composition. There has been very little attempt to standardize the preparation of culture-media, and each observer has been accustomed to prepare them according to his own formula. Kruse⁴ considers that the finer structure of colonies does not show great constancy, and that growth characters depend especially upon the composition of the medium, its consistence, degree of alkalinity, and upon the growth conditions, especially temperature; he also notes that through a reduction in the consistence of gelatin, such as is caused by prolonged boiling, colony-forms are influenced and "proteus-like" appearances may occur. As Hiss says:⁵ "It seems fair to conclude that the form of colonies and the distribution of an organism on and in the various culture-media are to a great extent purely mechanical problems, that they are the result of the resistance offered by the density of the medium, the motility of the organism and its rate and mode of increase under the given nutrient and temperature conditions."

Imbued with the idea that a profitable and scientific field of research lay in the comparative study of bacteria, especially motile form, in media of varied consistence and composition, Philip Hanson Hiss, Jr., undertook to find some semi-solid culture medium upon which he could grow the *B. typhosus* and the *B. coli communis* at one and the same time, and differentiate them by their individual peculiarities in manner of growth. To this end, he experimented with media of varied composition, and

⁴ Kruse: In Flüggé's *Die Micro-Organismen*, 3te Aufl., p. 480, Leipzig, 1896.

⁵ Hiss: *Journal of Experimental Medicine*, November, 1897.

finally found a semi-solid culture medium upon which the *B. typhosus* grew in a characteristically different manner from the *B. coli communis*. Hiss⁶ devised both a plating and tube medium. The composition of the plating medium is as follows: ten grammes of agar; twenty-five grammes of gelatin; five grammes of sodium chloride; ten grammes of glucose; five grammes of meat extract (Liebig's) to the litre, and of a reaction indicating two per cent. of normal acid, phenolphthalein being the indicator used. As seen under a low power, the deep typhoid colonies are small, generally spherical, with a rough irregular outline, and by transmitted light are of a vitreous greenish or yellowish-green color. The most characteristic feature consists of the well-defined filamentous outgrowths, ranging from a single thread to a complete fringe around the colony. The young colonies at times are comprised solely of threads. The fringing threads generally grow out nearly at right angles to the periphery of the colony, and can be seen by focusing up and down to be directly connected with it. Often there is an angular outgrowth from which the thread arises. The threads may be short, but are often long, and, at times, even twisted on themselves. A small percentage of the larger deep colonies show no threads. The surface typhoid colonies are small. They usually have a well-defined darker central portion, resembling the deep colony, from which threads may spring, and the part spreading over the surface of the medium is very thin and colorless by transmitted light.

The deep colon colonies are much larger than the deep typhoid colonies; they are spherical or of whetstone form, and by transmitted light are darker, more opaque and less refractive than the typhoid colonies. By reflected light they are pale yellow. The surface colon colonies are plentiful, large, round or irregularly spreading, and, as seen by transmitted light, are brown or brownish-yellow. They often show a dark, well-defined central spot, and from this spread out in a fairly thick layer over the surface.

From this description it can be seen that we have in Hiss' medium a means of differentiating the *B. typhosus* from the "colon group." In addition to the plating medium we have Hiss' tube medium, in which also occur certain phenomena characteristic of these micro-organisms. It is composed of five grammes of agar, eighty grammes of gelatin, five grammes of beef extract (Liebig's), five grammes of sodium chloride, ten grammes of glucose to the litre, with a reaction indicating 1.5 per cent. of normal acid, phenolphthalein being the indicator used. Puncture inoculations upon this medium of the *B. typhosus* and the *B. coli communis* show the following: typhoid cultures produce a clouding in the medium and a spreading of growth uniformly throughout the medium, while in the colon puncture the growth is massed along the line of puncture, and any outgrowth is usually by isolated colonies. Gas is produced in the colon tube—none in the typhoid tube.

It is recommended to keep the plates at a temperature of 37°C. for a period of time—not over twenty-four hours.

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⁶Hiss: *Loc. cit.*

BLACKWATER FEVER.

By W. L. BROWN, L. R. C. P., L. R. C. S. (Edin.), of London, England.

BLACKWATER, or hæmoglobinuric fever is common in some parts of Africa, but in Europe, according to Laveran, it is only frequent in Greece. The parasite of malaria has been found in the tissues in a fatal case of blackwater fever described by Dr. George Thin.

In three hundred and seven cases of pernicious fever in Athens, Pamponkis noted one hundred and fifty-six cases of hæmoglobinuric fever, of which thirty-five were fatal.

It has been usually considered as a special or aggravated form of pernicious malarial fever. Koch has, however, recently alleged in his *Reise-Berichte* that the hæmoglobinuria is due to quinine poisoning.

Tomaselli has firmly established the fact that quinine in certain cases acts as a poison. It is a matter of experience that there are countries in which quinine is frequently given, and in very large doses, without causing hæmoglobinuria.

Dr. Plehn has recorded the clinical histories of forty cases of blackwater fever. In thirty of these cases it is quite evident that the hæmoglobinuria was due to the quinine, the attacks most occurring about two or three hours after its administration. In six it is not stated whether quinine had been exhibited, and in the remaining four cases the statement goes to show that quinine was not used. In seventeen of the forty cases Dr. Plehn specially mentions that he found parasites in the blood. Morphologically, and as regards size, that parasite which he describes seems to be the same as the parasite described by Captain Duggan in the Sierra Leone cases (which were not cases of blackwater fever), and which Dr. Thin afterwards found in sections of the brain of the west coast cases. In some of the cases it is distinctly mentioned that no parasites were discovered; but this is accounted for by the fact that parasites are not always found in every stage of the fever in the peripheral circulation; and there is no doubt that in many of the cases in which the symptoms of blackwater were due to quinine, the drug had killed the small ring-shaped parasite.

The results of the examination of the several organs in Dr. Kerr Cross' case, as made by Dr. Thin, are as follows:

After making numerous sections of the brain without result, parasites were ultimately found in several red blood corpuscles. The largest of the parasites contained three distinct points deeply stained with borax-blue. The usual abundant evidence of malarial pigment was absent in the spleen, but a careful examination led to the discovery of a fair number of cells containing very minute granules of pigment of a slightly greenish tint. The same may be said of the liver. Many of the tubules of the kidney were but little altered, though in some the epithelial cells had undergone considerable degeneration.

In this case the brain was the only organ in which the parasite was found. There is absolutely no evidence for the supposition that blackwater fever is due to a special form of parasite. It is much more likely that the same species of parasite varies in its poisonous powers according to place and time, analogous to what is already known regarding the action of the parasite of tertian fever.

THE SILVER SALTS IN OPHTHALMOLOGY.

By EDWIN C. RENAUD, M. D., of St. Louis.

THE silver salts have occupied a place of great prominence in the treatment of diseases of the anterior segment of the eye for years past—in fact, almost since ophthalmic science has been recognized as a branch of the art of healing. In diseases of the conjunctiva, especially, have these salts been applied locally with a lavish hand, by the older ophthalmologists in particular. For years—in fact, until quite recently—the nitrate has been considered a specific for all conjunctival affections, from gonorrhœal conjunctivitis and trachoma to the mildest forms of irritation, now proved to be due, in a large percentage of cases, to errors of refraction. In corneal affections, as well, especially in the ulcerative forms, the silver salts have been extensively employed, and good results from their use claimed by different observers. Again, in various forms of dacryo-cystitis, solutions of silver nitrate were considered the sovereign remedy. While we must acknowledge silver nitrate to have proven every efficacious in the treatment of these conditions, we must also acknowledge that it has its decided drawbacks. First among its deleterious effects we must place its cauterizing action, and the subsequent replacing of the conjunctiva by cicatricial tissue. Even in mild solutions the permanent staining of this membrane is far from a desirable effect, which we so often see after its prolonged application. Again, we have in strong solutions an agent whose application causes considerable pain and discomfort; oftentimes more painful than the malady it is employed to cure. Then again (a small objection, it is true, but still an objection), is the necessity for neutralizing this salt with a solution of sodium chloride, and the difficulty of neutralizing it completely, because of that that has found its ways into the fornices. Although, as we know, silver nitrate has many advantages and has proven efficacious in the treatment of numerous affections of the anterior segment of the eye, it has these several serious drawbacks and deleterious sequelæ, which more than counterbalance its good effects. Appreciating the drawbacks incident to the severe and undesirable sequelæ following its use on mucous membranes, there has been considerable research and experimentation of late years to obtain a silver salt devoid of these undesirable characteristics. The result has been the discovery of such salts as argentamin, argonin and protargol. The proportion of silver, which is the base of all these remedies, is, in argent-nitrate, 6.35 per cent.; in argentamin, 6.35 per cent.; in argonin, 4.2 per cent., and in protargol, 8.3 per cent. It is with the latter we will deal.

Protargol is a compound of silver with a proteina substance. It is an antiseptic, of some astringent power, and is not irritating. In fact, it possesses all the good characteristics of silver nitrate to a modified degree, without possessing the undesirable ones. Of late it has been employed in almost all forms of conjunctival trouble, even trachoma, and in corneal ulcers. Neisser has claimed that it has a specially happy effect in cases of infection by the gonococcus, it having a powerful effect on this micro-organism in particular. Consequently, in gonorrhœal con-

junctivitis, both in adults and the newly-born, this drug has been employed, and, according to some observers, with a fair degree of success. Darier employs protargol in purulent conjunctivitis, using a 50 per cent. solution as an application to the palpebral conjunctiva once daily, as even in a solution of this strength it is found to be non-irritating, while its therapeutic action, he claims, is enhanced. Besides these applications he directs his patients to drop a 5 per cent. solution in the eye several times daily. He claims a large percentage of cures from this treatment. He also considers protargol of special benefit in deep, wide-spreading ulcers of the cornea, especially those due to purulent conjunctivitis. He also considers this drug to be very beneficial in dacryo-cystitis, as an injection by the lachrymal syringe, using a 5 per cent. to 15 per cent. solution. The instillation of a 10 to 15 per cent. solution into the conjunctival *cul-de-sac* immediately after birth, he considers equally as efficacious as Crede's method.

On the other hand, Pflueger and Walter consider the old method of nitrate of silver in the treatment of conjunctival blennorrhœa to be more effective and more reliable. They also consider the nitrate treatment preferable in cases of dacryo-cystitis.

Not only in the two diseases just mentioned, but in all forms of conjunctivitis has protargol been used. In considering its efficacy in varied conjunctival troubles, it may be of interest to mention some of the types of conjunctivitis treated by this method. Purulent, trachomatous, acute catarrhal, phlyctenular and simple follicular are some of the conditions in which protargol has been lauded. To these we can add chronic conjunctivitis and the subconjunctival hyperplasia associated with hyperæmia of a chronic type—a condition we often see following chronic trachoma. Cheney, of Boston, in the *Boston Medical and Surgical Journal*, gives an account of one hundred and thirty cases of conjunctival trouble of various kinds treated with protargol. In mentioning this drug, with regard to its merits and demerits, he says: "It seems to me to possess all the advantages of nitrate of silver, and none of its disadvantages." Among these cases he had twenty-five of ophthalmia neonatorum, two of gonorrhœal conjunctivitis in the adult, fifty-three of acute catarrhal conjunctivitis.

In comparing the effects of protargol and silver nitrate in these cases, and in twelve cases of chronic trachoma, he considers it to be as efficacious as the nitrate and to be much less an irritant. In ten cases of lachrymal obstruction in which he used protargol, he does not seem to consider it of special value. Pergens, of Brussels, on the other hand, considers it of great value in lachrymal trouble, especially if of the suppurative variety.

Fuerst considers the following formula to be an admirable form for the employment of the drug under consideration:

R Protargol	10 parts
Glycerine.....	10 parts
These to be rubbed together and dissolved in 90 parts of water.	

Valencon, in an article on the employment of protargol in diseases of the eye (Paris), considers this drug of great value. He contends that protargol has all the properties of silver nitrate and argentamine, but is much less caustic and irritating. According to his researches, he con-

cludes that in conjunctivitis due to the gonococcus, or to the bacillus of Weeks and blepharo-conjunctivitis, protargol is of great value, while in conjunctivitis due to bacillus of Morax it is uncertain. In granular conjunctivitis he does not consider it sufficiently caustic to eradicate the disease.

Dubarry gives an account of a case of purulent conjunctivitis in which protargol was unsuccessful.

So far as my personal experience with protargol has extended, it has proven decidedly beneficial in acute catarrhal conjunctivitis in a number of cases (about twenty). It is in this condition that it has given me satisfaction to the greatest extent. I have only used it in one case of gonorrhœal conjunctivitis, and although it was decidedly beneficial, I must say that its action was quite slow, the case taking longer to recover than similar cases under more severe medication. Still, even though the recovery was slow, the treatment seemed, from the first, reliable, and the patient assured me that after the fourth day of medication the pain was much relieved; and as to the discharge, its character showed decided change on the fifth day.

In trachoma, protargol has been a disappointment to me. I have found it capable of modifying the condition somewhat, but so far I have been disappointed in it as a curative agent in this trouble. As a medicinal agent, I much prefer ichthyol in trachoma. In lachrymal troubles I have not employed protargol, so cannot speak on the subject, except from the experience of others. In chronic conjunctivitis I have found protargol to be of decided benefit, although in some cases ichthyol in this condition has proven more efficacious. Corneal ulcers have responded well to the silver salt under consideration, in my hands, especially if of the superficial variety. In two cases of infected ulcer of the cornea, one was cured by its use, and the other, after a three-weeks' treatment by protargol, I had to put under treatment by formalin, under which the case progressed to a favorable termination.

Diagnosis of Typhoid Fever.—Doctor Baruch says that resistance of the rectal temperature to a bath with friction, at seventy-five degrees for fifteen minutes, is almost a sure test for typhoid fever. If a bath gradually cooled from ninety degrees to seventy-five degrees fails to reduce the rectal temperature two degrees in one-half hour, the diagnosis of typhoid is almost certain. Elsner's culture test is based on the fact that the Eberth bacillus alone grows upon the medium (potato-gelatin to which one per cent. of iodide of potassium is added). This, as well as Pfeiffer's serum test, is open to objection as a working method. The Widal test accomplishes much more satisfactory clinical results. It is of clinical value, although certain chemical agents produce like results.—CHARLES WARRENE ALLEN (*The Practitioner's Manual*, page 343).

LONDON CORRESPONDENCE.

The Death of Dr. Tait.—A great English surgeon has passed away, and the striking personality of Mr. Lawson Tait is lost to view forever. A pupil of the late Sir James Young Simpson, Mr. Tait manifested in his earliest days a genius and ability which commanded success. He had performed six ovariectomies before he reached the age of twenty-three, and his dexterity and manipulation were such as to excite wonder and admiration. His surgical skill and the estimation in which Mr. Tait was held as a surgeon received quaint expression from an American surgeon who visited this country in the year 1890, and who was privileged to see Mr. Tait remove a very huge tumor from a very small female patient. At the conclusion of the operation the American physician advanced to Mr. Tait and remarked: "I guess, Mr. Tait, you peeled the woman off that tumor right slick!" Very many interesting anecdotes could be related of Mr. Lawson Tait, who was distinguished for his good living and for his happy gift of expression and story-telling. He was a pugnacious opponent of many of the conventionalities of medicine, and delighted to take up the side of a hopeless case. He was a strenuous anti-Listerite, and often occupied an anti-vivisection platform. He was a leader of the opposition to the Monopolizing Council of the Royal College of Surgeons. Indeed, there was no matter of public interest, medical or political, in which this giant among men did not take a prominent part. His achievements as a surgeon may be summed up by saying that he reduced the mortality of ovariectomy to the vanishing point. He introduced many new methods of operating upon the abdominal or pelvic organs. He introduced the plan of washing the peritoneum by flushing it with hot water, and was a master in demonstrating the effects of tubal inflammation.

He invented many surgical instruments adapted for the purposes he had in view. As in politics, so as an operator, Tait was at his best when the difficulties were greatest and the chances of life apparently most hopeless.

Tait was a man, who, although aggressively combative, had very many friends; he also had many bitter enemies who treated him most unfairly, considering the advantages they had gained from his former favors. He was accustomed to mention with some asperity and bitterness, under the term "mud manager," the name of Mr. Ernest Hart, the late editor of *The British Medical Journal*, who regarded Tait, for his outspokenness, with the utmost envy and malice.

During his latter years Mr. Tait's life was embittered by a faction of foes who used against him, and to his great injury, with a delight at once bloodthirsty and savage, an incident which had occurred with one of his nurses who had entered an action at law against Tait. On the last occasion on which I saw Mr. Tait he mentioned to me that the nurse in question had of her own accord unreservedly withdrawn, under her own signature, all the charges, imputations, and reflections which at any time she had made against him.

No scandal, however fostered and propagated, could detract from Tait's greatness as a surgeon, any more than similar and, indeed, usual weapons

of the medical mediocrity of this country were able to detract from the greatness of our great American gynecologist, Dr. Marion Sims, for whom Mr. Lawson Tait had ever the greatest admiration, and to whom he dedicated his work on the "Pathology and Treatment of Diseases of the Ovaries."

This is but a brief estimate of a personal and much-esteemed friend.

Some Notes on the Most Recent Developments of Our Knowledge of Typhoid Fever.—Typhoid fever in this country has ever been a foremost subject of study and investigation since the time that Dr. Perry of the Glasgow Royal Infirmary differentiated it from typhus, and since the late Sir William Jenner wrote a series of twenty-one papers to *The Medical Times* on the subject of "Typhus Fever, Typhoid Fever, Relapsing Fever, and Febricula, the Diseases Commonly Confounded Under the Term Continued Fever."

Interest in the disease is exhibited by the reports which come from all parts of the world from Hong-Kong to Yukon, from which latter place it is reported that some three hundred cases of typhoid fever were in hospital at Dawson City on the 8th of January last, very few cases proving fatal.

Etiology.—In regard to the etiology or causation of typhoid fever, its aspect in relation to the "soil" was discussed by Dr. Poore in some lectures delivered at the Royal College of Physicians recently. Dr. Boobbyer, Medical Officer of Health for Nottingham, read a paper on "Ten Years' Experience of Typhoid Fever in a Midland Town." He described, with the aid of maps, the geological and physical characters of the site of the city, which was built on the sandstones and red clays of the lias, the greater part in the Bunter sandstone, at elevations between eighty and four hundred feet above the river Trent, one district lying low on the gravels, and subject to occasional floods. Two important features were the occurrence beneath the town of numerous caverns in the rock, frequently converted into huge cess-pits, which often interfered with building and sewage operations, and the cleaning out and filling up of which was a work of much difficulty; and secondly, the extensive use of polluted refuse and made-soil in leveling building sites to a depth of twenty or thirty feet. No relation could be traced "between the prevalence" of typhoid and the rainfall, the geological formation, or the elevation of the site. Poverty, dirt, overcrowding, and soil pollution seemed to be the sole determining local conditions of its special incidence. His conclusions were that (1) a sustained mean temperature of over 55° F. was followed by a higher autumnal rise in the prevalence of typhoid, and a cooler summer by a lower than the average; (2) that the disease was endemic in poor, crowded districts, irrespective of elevation and geological formation, provided soil pollution and like favorable conditions were present; (3) that even on foul made-soil and where pail closets were in use, the better class of houses suffered less than the poor; (4) that the infection was far less in houses with water-closets than with dry conservancy, and heavier with those with middens than in those where pails were used, the difference being more marked the poorer the class of houses; and (5) that it was directly communicable by personal intercourse, even in well-regulated hospitals, and more so in the confined dwellings of the poor.

Incubation Period.—A curious point in reference to the incubation period of typhoid fever was mentioned by Dr. F. E. Atkinson in a complete report on the limited outbreak of typhoid fever at Kildwick: "Of the forty-eight cases, all but four either lived in houses supplied directly with a particular water, or, owing to attendance at a school supplied with the water, had opportunities of drinking it. Of these four, one was a stone-breaker recently working in the neighborhood of the infected supply; another was a man who attended a cattle-club dinner in the infected area, and confined his potations to water—the only one, it is said, at the dinner who did so. The two others were members of families in which cases traceable directly to the water had already occurred. Assuming that all four cases began on January 4th, the period from the infection of the water supply, the first symptoms could not have been more than twenty-nine days or less than twenty-five. This is long for an incubation period; but part of this time might have been occupied in producing an effective culture of the bacillus in the old stone drains. From a record of the rainfall, it might well be that the bacilli multiplying in the flat-bottomed drain had been raised to the level of the pipes carrying the subsoil water to the tanks, which would make the incubation period about eleven days."

Typhoid in the French Army.—Of late years the official returns of the French war office have shown a very great improvement as regards typhoid, mainly owing to the greater care of the water supply. An epidemic of typhoid commencing in November last broke out at Cherbourg, principally amongst the Naval Infantry, and the troops deriving their water from the river La Divette have suffered to the extent of three hundred cases in the Naval Hospital at Cherbourg.

Saline Solution in the Hæmorrhage of Typhoid.—A case has been reported of a man forty-six years of age who had severe typhoid; the temperature was 104.2° F., pulse 100. He passed eight ounces of blood one day and ten the next, and a few ounces more with the stool. The temperature fell to 97.6° and pulse 70–80, respiration sighing, and skin clammy. Brandy, strychnine, and digitalis were given without effect. The pulse became weaker and unconsciousness and lividity of the hands and ears supervened. Two pints of normal saline solution at 100° were injected into the median-cephalic vein. The improvement which occurred was not continuous, and four hours later one and one-half pints were injected—the patient recovered. Another case is reported in which rectal injections of saline solution were useful in hæmorrhage.

"Green Stools."—In reference to the symptomatology, some mention has recently been made of the appearance of "green stools" in cases of enteric fever. Attention was first directed to this peculiarity by Dr. F. W. Forbes Ross, Gower street, London, W. C., who published the results of his experiments early in 1897, in a monograph entitled "Intestinal Intoxication in Infants" (London: Rebman & Co.). The explanation has been suggested that the unchanged bile pigment in other stools may be due to quickened peristalsis associated with extensive ulceration or catarrh about the lower ileum and colon. Green stools are frequently present in cases of dysentery. These cases appear to lend support to the above suggestion, as the ulceration and catarrh exist in all. The green coloration was noted whether magnesium, ipecacuanha, or olive oil

had been administered. It has been noted that in many cases of "green stools" in typhoid, the patients (Indians) have been rice-eaters. The "green stools" are also mentioned in connection with cases of yellow fever. Mr. William Frederick Higginson, Superintendent of the Jails in the Northwest provinces of India, was always inclined in cases of typhoid to welcome the appearance of "green pea soup" stools when treating cases of acute dysentery and associated them with a sense of relief on the part of the patient and with the action of ipecacuanha on the congested portal system.

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Prophylaxis of Typhoid Fever.—In the *Texas Medical Journal*, June, appears the following:

With regard to prophylaxis of others during the treatment of a case of typhoid, these noteworthy recommendations from a French source are given: (1) Isolate patients suffering from typhoid fever, or at least do not permit them to be treated in a room or ward containing young people who have not previously had typhoid. The warning contains some wholesome advice too often neglected, and sometimes with sad results, because we are persuaded that typhoid is not an air-borne disease, and forget that contiguity favors infection because precautions will inevitably sometimes be neglected. (2) Nurses for typhoid cases should, if possible, be only such as have had typhoid themselves. In a family, the young people should be removed. (3) The floor of the sick room should be oiled, so as to be impermeable. Carpets and rugs should be removed, and the raising of dust should be avoided by frequent use of a cloth dampened with antiseptic solution. (4) The nurses should wear linen clothes, which they should remove when they leave the sick room, and in general they should be warned to be circumspect in their relations with others, and especially careful of the utmost details of antiseptics in the matter of the preparation of food and drink for themselves and others.

Typhoid and Oysters.—On January 13, the *Consiglio di Sanità* met in plenary session to discuss, among other questions, the measures to be adopted for better safeguarding the public consumer against the risks of infective diseases contracted from oysters unhealthily reared.

Periostitis as a Complication.—Two varieties of periostitis seem to exist as a complication of typhoid; in one the local lesion seems to be due to the typhoid bacillus, but in the other it seems to be due to a secondary streptococcic infection. The value of a bacteriological examination in all such cases cannot be exaggerated. The case of a boy aged thirteen had pain and swelling of the first phalanx of the right ring finger. No improvement resulting from free incisions 10 c.c. antistreptococcic some was injected and repeated daily in 5 c.c. injections, with speedy improvement.

NEW YORK LETTER.

Items of Special Interest on the Subjects of Malaria and Typhoid Fever at the Recent Meeting of the American Medical Association, Which Met in Columbus, Ohio.—In the section on practice of medicine Dr. George Dock, who has been appointed chairman of this section for the ensuing year, read a paper on "The Use of Quinin in Malaria," and advised the giving of this drug in the decline of the paroxysm, if possible, or not later than the end of the apyrexia. He found it best to give the full dose in the form of the hydrochlorate, in capsules, followed by fifteen drops of hydrochloric acid. Dr. G. A. Fackler, of Cincinnati, read a paper offering clinical facts elicited by a review of twenty cases, confirming previous observations made as to the unreliability of the hypodermic administration of quinin in malaria. Dr. Charles G. Stockton, of Buffalo, New York, believed that in the matter of time in the administration of quinin there should be no rule for all individuals alike, as suggested by Doctor Dock. It requires particular study of each case to determine at just what time the drug affects the plasmodium. He agreed with Doctor Fackler regarding the hypodermic use of quinin. In one instance he failed to get relief by the hypodermic method, yet by way of the mouth the paroxysms were controlled. In three cases he got troublesome abscesses at the seat of the injection, and he thought the local irritation might have accounted for the non-absorbability of the drug and the non-relief of the symptoms. Dr. Judson Daland, of Philadelphia, believed that the bisulphate of quinin was the salt to be preferred on account of its greater solubility and lessened irritability. He thought the time for giving the quinin was immediately after the violence of the paroxysm had passed over; this should be preceded by a preliminary course of treatment by calomel. Dr. F. S. Johnson, of Chicago, said the absorption of quinin was very uncertain, and sometimes it was impossible to get the drug absorbed in any other way than by the hypodermic method or by inunctions. He emphasized the importance of giving large doses, 40–60 grains, by deep injection; if the solution be sterilized, there will follow no slough. He related an interesting case of a woman with intermittent fever; when quinin was given by the mouth, she had delusions and hallucinations, but the fever was controlled; the quinin was stopped with disappearance of the delusions and hallucinations, but with a return of the fever; he then gave her inunctions of 150–200 grains of quinin mixed with oleic acid and coca butter; this was rubbed in daily, with the prompt recovery from all her symptoms. Dr. H. A. Hare, of Philadelphia, believed that in many cases the alimentary canal was not in fit condition to receive the drug. He thought that many cases diagnosed as malarial were not malarial at all, the mistake being due to the fact that so few practitioners were acquainted with the use of the microscope. He believed that the drug, if given by way of the veins, would prove most useful; use as a vehicle the normal saline solution and inject it slowly. Quinin is a cardiac depressant; a Newfoundland dog's heart may be stopped at once, by the intravenous injection of quinin; this danger should not be overlooked. Doctor Dunham, of Chicago,

recommended the giving of the double salt of quinin and urea hypodermatically; this should be inserted in small quantities in the gluteal region. All cases should not be treated in this way—only those that failed to absorb the drug in any other way. If the malarial organism is surrounded by the red blood capsule, it is difficult to get the quinin to take effect; but if the organism has completed its segmentation, good effects then follow.

The papers and discussion on typhoid fever brought forth great interest and much diversity of opinion. Dr. J. L. Taylow, of Wheelersburgh, Ohio, stated that for twenty-five years he had practiced in the Ohio valley, which had been formerly intensely malarial, but where more recently typhoid fever had become endemic, and he raised the question as to whether the plasmodium had yielded to the bacillus of superior power. The typhoid came in the form of violent epidemics, which gradually grew less malignant, and which had now assumed an endemic form characterized each year by varying types. Dr. L. F. Roush, of New Haven, West Virginia, treated typhoid fever by catharsis, especially during the first six or eight days, using in particular calomel, although any cathartic could be used that would change the action of the bowels to that which was characteristic of the medicine used. He claimed that it tended to prevent the toxin poisoning and mitigated the symptoms. Salicylate of ammonium, in five-grain doses, was also given in solution every two hours day and night, except when the temperature fell below 102 degrees F. He ordered the patients sponged with cold or warm water frequently, depending upon which was the more agreeable to the patient. He urged against the use of the bed-pan. Dr. E. C. Brush, of Zanesville, Ohio, gave three grains of acetanilid every three hours whenever the temperature was above 101°. Nearly all the patients treated in this way broke out into a free perspiration after the first dose. Dr. Witherspoon, of Nashville, Tennessee, could think of no worse treatment than that advised by Dr. Roush, by catharsis, claiming that in this disease such treatment would be adding fuel to the fire and one would run the risk of getting a quicker slough. The danger of the disease was from the toxæmia, which overwhelmed the nervous system. He did not consider acetanilid or any of the coal-tar derivatives safe. Dr. J. C. Wilson, of Philadelphia, emphasized the point of making patients get out of bed and go to the commode or to the bath. In the Philadelphia Hospital there were sixty-eight cases at once, and these were made to get up as often as necessary. Among two hundred and sixty-five cases the mortality was 6.5 per cent. He asked that the profession break away from tradition, and not to use the bed-pan. Dr. Wilson's discussion brought forth considerable applause.

Typhoid Fever in the Military Service.—Dr. Victor C. Vaughan, of Ann Arbor, Michigan, read a paper before the Association of American Physicians, which met in Washington recently. He was appointed, with Major Reed and Major Shakespeare, by Dr. Sternberg, to study the cause and spread of typhoid in the various corps of the United States. One factor they had to deal with was the incorrect diagnosis of disease, typhoid fever being most generally mistaken for protracted malarial fever. Scientific exami-

nations of the blood and the application of the Widal test assisted in disclosing the fact that the reported cases of malaria were typhoid fever in almost every instance. The infection was very general, more than ninety per cent. of the volunteer regiments becoming so before being ordered to the encampment, having brought it from home or from the State encampments. At Camp Alger the spread of the disease was caused by improper disposal of excreta. The men's feet carried the excreta, flies carried it to the food, and thus it was spread. The inevitable conclusion to be reached is that the only means of preventing a spread of infection is the complete sterilizing of fecal matter in camps that are to be occupied three weeks or longer. It may be interesting to note that the Army Board on the Spread of Typhoid Fever, appointed by the War Department, indicate that the water supply had practically little to do with the spread of the disease. The infection was transmitted through the atmosphere in dust carried by winds and by the agency of flies.

Appointments.—Prof. A. Jacobi, M. D., had conferred upon him foreign membership by the "Société d'Obstétrique, de Gynécologie, et de Pédiatrie," of Paris, on June 2d. Dr. Robert F. Wier, of New York, was appointed president of the American Surgical Association; Dr. E. D. Ferguson, of Troy, N. Y., was appointed second vice-president of the American Medical Association; Dr. J. Riddle Goff, of New York, was appointed secretary of the American Gynecological Association; Dr. A. Jacobi, of New York, was appointed president of the Climatological Association; Dr. E. G. Janeway, of New York, was appointed president of the Association of American Physicians; Dr. Daniel Lewis, of New York, was appointed president of the State Board of Health; Dr. Dillon Brown, of New York, secretary of the American Medical Editors' Association.

Christian Scientists are being held on warrants with the charge of manslaughter in causing deaths in different parts of this State. At the June meeting of the Medico-Legal Society, held in this city a few days ago, the president was authorized to appoint a committee to investigate the methods of these people and to determine as to the necessity of a law to put a stop to their practices.

Physicians' Certificates.—Certain justices in this city have made the announcement that they will no longer accept physician's certificates of illness for unwilling jurors, but that the physician must be called to court to testify as to the illness of such persons.

Ambulance Calls.—The New York Police Department's report for 1898 show the number of ambulance calls have been 34,539. That shows the vast scope of the present service in this city.

Diarrhœal Diseases in Brooklyn.—For the week ending July 1st there were one hundred and thirty-nine deaths in Brooklyn of children under five years of age from diarrhœal diseases, while there were only sixty-eight in the borough of Manhattan. This difference is not due to the water supply; the cause is not yet determined.

Outdoor Recreation League.—This is situated on the Hudson River, at Fifty-third street. On June 3d a second institution of this kind was opened in the crowded tenement district in the new Seward Park. The area occupies two acres, one-half of which is devoted to the gymnasium proper, which includes a cinder path seven hundred and fifty feet in circumference, and the other half is a children's playground, in a portion of which free kindergartens, with a corps of eight teachers, will be conducted in large tents.

E. FRANKLIN SMITH, M. D.

Intestinal Hemorrhage in Typhoid Fever.—In the vast majority of cases when hemorrhage occurs during typhoid fever, there is a history of the patient having walked around during the illness. When there is free hemorrhage from a vessel, I believe that ergot does harm. It raises arterial pressure, and thus increases the hemorrhage. Calcium chloride is worth trying in these cases. Give it in five-grain doses, well diluted in water, every two or three hours. This drug decreases hemorrhage by increasing the coagulability of the blood.—H. A. HARE.

Color Tests for Diabetic Urine.—Bremer (*Centralbl. f. inn. Med.*, April 2, 1898) says that both in diabetic urine and blood the color reactions do not depend on the presence of sugar. In two clean and dry test tubes 10 c.cm. of normal and diabetic urine respectively are placed; 0.5 mg. or less of finely rubbed up gentian violet is then allowed to drop on to the surface of the urine. In diabetic urine the superficial layers of varying depth are colored blue or violet-blue, and this color does not disappear on shaking. In normal urine, even after shaking, no color, or only the faintest trace, is developed. Merck's gentian violet B is the best. In low temperatures the reaction is not so marked, hence in winter it is well to place the test tube in a water bath. The addition of mineral acids or sugar to normal urine will not lead to the development of this color reaction, which is really due to the presence of reducing substances in the diabetic urine. With urines of unusually low specific gravity under 1015 the reaction may approach that seen in diabetic urines. When, however, the reaction occurs in urine of high specific gravity the presence of diabetes is certain. If non-diabetic urine of moderate specific gravity gives a doubtful reaction due to the abnormal solubility of the violet coloring matter, there is a disturbance of metabolism. The author adds that the reaction may throw some light on some of the many obscure points in the composition and chemistry of normal and diabetic urines.—*Lancet*.

MEDICAL NOTES.

Malarial Disease Mistaken for an Affection of the Ear.—D. B. St. John Roosa (*Yale Medical Journal*, April, 1899) reports the auto-history of one of his patients, a physician, in whom the malarial disorder was mistaken by the attending physician for acute aural disease, and calls attention to this possible error in diagnosis. "It is not difficult," he states, "to distinguish a septic rise of temperature, with its irregular vacillating curve, from that of pronounced intermittent fever, which rapidly reaches its height, and as rapidly descends."

Seeing Through the Nose.—Douliot, in the *Revue Internationale de Rhinologie*, etc. (December, 1898), reports the case of a man who learned to see through his nasal cavities after the successive loss of both eyes. The right eye had been lost in childhood; the other eye, as well as the nose, had been destroyed in a fall upon a stake. A year later he perceived that he was able to distinguish through the nasal aperture the light of day, and also brilliant objects placed beneath it. It is considered probable that the retina had been spared, and that there remained an opening of communication between the nasal fossæ and the orbital cavity.—*Treatment*.

Dr. Thompson S. Westcott reported a case of acetanilid poisoning in a female infant, four months of age, the child of a brother practitioner. She was a fat, well-developed baby, nursed entirely upon the breast; and during the hot weather of last summer she perspired freely and became chafed in the folds of the groins and the creases of the thighs, a mild eczematous condition existing in a small portion of the areas affected. For this the father had ordered a dusting powder of pure acetanilid. Three hours after the drug was applied the whole surface of the body showed a peculiar grayish pallor, and the lips were bluish, though the surface temperature was not thought by the mother to be lower than usual. The cyanosis increased for an hour and a half, the face became pinched and drawn in appearance, and the baby was in a profound slumber, from which she could not easily be aroused. When the father first saw her, four or five hours after signs of poison were first noticed, the cardiac action and respiration were not appreciably disturbed. The remains of the powder were not removed till this time. Recovery gradually ensued without any more active treatment than small doses of whiskey once or twice repeated. In this case the actual amount of surface capable of directly absorbing the drug was very small, and in no way comparable to the area of surface exposed in other cases so far recorded. The report concluded by deprecating the free use of so dangerous a drug under any conditions in young children, and considered that the existence of any break in the surface should demand the greatest caution in its use, if indeed this should not be judged a positive contra-indication.—*Pediatrics*.

The Serum Treatment of Tetanus.—F. Blumenthal and Jacob, of Leyden's clinic (*Berl. klin. Woch.*, December 5, 1898), in a preliminary communication, state that the subcutaneous and intravenous injection of tetanus antitoxin has certainly not produced very satisfactory results. Thus the idea arose of introducing the remedy into the organs which are the main seat of the disease. As the tetanus poison is chiefly manufactured in the central nervous system, Roux and Borell, after trephining, injected the antitoxin directly into the nervous tissue in rabbits, mice, and guinea-pigs with success. These investigators did not use large animals, and they expressed themselves very cautiously about its further application. Independently, Blumenthal and Jacob conceived the idea of introducing the antitoxin by the method of dural infusion devised by Jacob. Goats were injected with many times the lethal dose of tetanus toxin, and as soon as the first symptoms appeared the antitoxin was injected into the subarachnoid space. The goats received 1000 to 2500 times the dose needed to neutralize the poison in the test-tube. The results were quite negative. The presence of the antitoxin was demonstrated in the subarachnoid tissue and organs some hours after death. In a control animal the cerebro-spinal fluid contained little tetanus toxin. After these negative results the authors then trephined a goat, and a few days later injected tetanus toxin into the thigh. At the first symptom of tetanus 2000 times the dose of antitoxin was injected into the brain. The animal died of tetanus sixteen hours after the injection. The authors do not believe that much can be expected of Roux and Borell's method when applied to man; seven out of eight cases so treated have died, and the eighth case was an example of the more chronic tetanus.

Endovenous Injections of Quinine in Malarial Pneumonia.—Intaglietta (*Rif. Med.*, January 17, 1899) records the case of a man, aged nineteen, suffering from severe pneumonia, probably of malarial origin. When first seen the patient was subicteric, respiration shallow and 38 per minute, pulse 120, temperature 106.5°; cough, with blood-stained expectoration; almost unconscious; biliary vomiting and occasional twitching. The right lung showed signs of pneumonia. The spleen and liver were each enlarged, the former excessively so. Two grams of a solution of bisulphate of quinine were given hypodermically every two hours, and inf. digitalis in the intervals. Some slight lowering of the fever followed, but otherwise no marked improvement, and after four days of this treatment—fourteen grams having been given—the boy being almost moribund, an endovenous injection of sixty cgr. of quinine was given. Good effects were speedily noticed, and after a second injection steady improvement set in, and convalescence was satisfactorily accomplished.

Antityphoid Serum.—Jez (*Méd. moderne*, March 25, 1899) states that, in his opinion, the blood and organs never contain any antitoxin principle in health; only after infection by a germ like the typhoid bacillus do certain organs produce the antitoxin. Our aim, therefore, should be directed to the location of these organs and extraction of the antitoxic principle. Jez has injected cultures of the bacillus typhosus into rabbits, and has then prepared an extract from the bone-marrow, spleen and thymus,

with further addition of salt, pepsin, codine and glycerine. After filtration a clear red fluid remains. Jez administers this substance per os in teaspoonful doses to typhoid cases, and gets a fall of temperature and general amelioration in two or three hours. Thus far he has recorded eighteen cases in which the course of the fever appeared to have been largely aborted. The serum was of no benefit whatever in pneumonia, influenza, and miliary tuberculosis.

Books as Medicine.—Some of our British contemporaries are discussing the value of "Books as Medicine." It has for a long time been a pet theory of our own that in literature lay the cure for many of our earthly ills, in that it has involved forgetfulness of them. It has been a common experience of both men and women that "the blues," which is the worst and on the surface most inexcusable disease to fasten itself on ordinarily healthy people, can be cured by a course of reading. We are able to recall numerous instances in which a dyspeptic hour has been relieved by the hearty and unescapable laughter which comes from a reading of certain productions of Mark Twain; and many a serious trouble has been averted by Pickwick. The joy of possessing a complete Thackeray has more than offset the dread which arises from a lack of possession in more worldly directions. And as the more serious of our mental and physical ailments are brought on by worry, who can devise a better system of medical treatment than that involved in this proposition?

If it were proper to do so, we should like very much to lay down a series of rules which should direct the doctors of the future. We should like to say to them that when their prescriptions are made up at book-shops, rather than at "drug-stores," they may the more surely count upon beneficial results. A writer of mere editorial paragraphs, who has never studied what is known as medicine, is, of course, not an authority on "drugs," but there are a few ideas advanced in ignorance by sincerely ignorant persons which have a real value. Medical knowledge is a great thing, and the greatest boon of the century to the sick has been the advance in the medical and surgical discoveries of the men who have taken their responsibilities seriously. But until our physicians have looked deeply into the curative properties of books they cannot be said to have done their whole duty. There is a tonic for the tired mind and worn body in a good, brisk romance, such as Dr. Doyle's "White Company," that even quinine in large or small doses cannot surpass or, in some cases, equal; and the wholesome fresh air of some of the better books of Anthony Hope cannot but serve well the lungs of any weary spirit. We defer alluding to the possibilities of Mr. Hall Caine as a cure for appendicitis for that deeper reflection to which the subject is entitled.—*Literature.*

Dr. A. C. Bernays, the well-known surgeon and anatomist, has resigned from the faculty of the Marion-Sims College of Medicine and will shortly establish a Post-Graduate School of Surgery. Information relative to the same can be received by addressing Doctor Bernays, Union Trust Building, St. Louis.

THERAPEUTICS.

Treatment of Malarial Fever.—In autumnal fevers, to obtain the full antidotal effect of quinin, we must saturate the system promptly. To avert the adynamic stage, twenty to thirty grains of quinin in divided doses three times daily. In cases of insomnia, a hypodermic of morphine and atropine.—BEDFORD BROWN.

In gastric catarrh or the gastro-hepatic symptoms of lithæmia, precede the specific treatment of malaria by a short course of broken doses of calomel, and it may be necessary to give quinin by suppository or subcutaneously.—JUDSON DALAND.

Sixty grains daily or ten every hour will arrest an attack in seventy-two hours or less. Thirty grains daily in three-grain doses will prolong it to five or six days. Ten grains every eight hours will have more effect on the germs than two grains every hour, and will not make the patient so nervous. In swamp regions the dose for a child between the ages of one day and eight years is five grains.—BEDFORD BROWN.

Ear buzzing is controlled to a large extent by simultaneous use of small doses of atropine.—AUBERT.

In malarial hæmaturia, prevent by giving quinin in requisite amounts at the proper time. When the kidneys are not acting well it is very hazardous not to administer quinin.—SEARS.

In pernicious malaria, a very fatal form, supposed to be due to greater intensity of action of the parasite, or, what is more likely, to greater susceptibility, quinin hypodermatically.—ALLEN.

Brand's treatment is based upon the following considerations: (1) That in any case of prolonged pyrexia, certain unfavorable symptoms and complications are liable to arise; (2) that while we know that these occur in a fairly constant proportion of cases, yet it is impossible to foresee them in any given case; (3) that it is usually possible to prevent them by systematic bathing; (4) that when once they have arisen, active interference is often of no avail. To obtain the greatest possible benefit from it, it is above all things necessary that it be commenced at the earliest possible period of the fever, before signs of danger have appeared; and in direct proportion as the first indication is responded to is the success of the treatment.—H. A. HARE.

The Parasites in Malaria.—Investigations have shown that the types of parasite undergo phases which correspond with the cycle of malaria. When a parasite occupies the whole corpuscle, an attack of ague is imminent. When the spherules are found, a rigor is present. The smaller unpigmented parasites are present during or at the end of the pyrexial stage; the larger pigmented being found during the apyrexial interval. In some cases there is a double crop, as it were, of these parasites, which become mature at different hours, and give rise to double quartan, tertian, etc., of this fever.—DR. F. H. WHITSITT (*Pacific Medical Journal*, June, 1899).

SURGICAL SUGGESTIONS.

Sign of Perforation in Typhoid.—The main obstacle in the way of frequent operation will always be the hesitating diagnosis before the onset of vomiting. Certainly, there are other conditions in typhoid which are at times accompanied by a sudden development of abdominal pain and distention, while tenderness is a sign not always easy to estimate. There is one sign, however, which in my experience never fails, in as much as it is invariable after perforations, but is not exhibited in other conditions, and that is the perfectly characteristic alteration in the rate and quality of the pulse.—DR. F. E. HARE (*The Cold Bath Treatment of Typhoid*, page 191).

Perforation in Typhoid Fever.—The symptoms, according to Pearse Gould, are (1) sudden pain and distention of the abdomen, vomiting, rise of temperature and pulse-rate, and all the signs of peritonitis; or (2) quite latent, consisting in the increase in prostration with distended motionless belly, so that the condition is not even suspected.

The following suggestions are offered: (1) Operate immediately the first injection of morphine has begun to take effect. (2) If vomiting has commenced, wash out the stomach before administering chloroform. (3) When the lesion is found and distention of the small intestines is present, enlarge the perforation longitudinally, both upward and downward, and thoroughly drain. (4) Close the abdomen by a double row of Lembert's sutures. (5) Examine carefully the lower few feet of the ileum to make certain there is no second perforation. There may be found a patch on the point of perforating which should often be treated as if the accident had actually occurred. (6) Thoroughly flush the peritoneal cavity with hot sterilized water, and place a glass drain-tube as near as possible to the damaged portion of the bowel. (7) The most generally useful incision would be the oblique, slightly curved incision recommended for appendicitis operations. My own experience leads me to the conclusion that in the majority of cases the locality pointed out by the patient as that in which the pain began is a very good index to the site of perforation.—DR. F. E. HARE (*The Cold Bath Treatment of Typhoid: The Experience of a Consecutive Series of 1902 Cases Treated at the Brisbane Hospital, Queensland*, page 190).

Typhoid Perforation of the Intestine.—Doctor Platt, in the *London Lancet*, January, 1899, adds three cases to those reported, in which coeliotomy and enterorrhaphy were undertaken for the relief of perforation of the bowel in the course of typhoid fever, in one with recovery and in two with a fatal termination. Doctor Platt prefers the right lateral incision into the abdomen, and considers the best method of closing the perforation to consist in turning inward the edges and uniting the peritoneal coats by interrupted Lembert or Halstead mattress-sutures, a single row of which is sufficient in most cases. The earlier after perforation that operation is performed the better the prognosis, although hope of a successful result is justified at any stage of the disease.



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The Chief Surgeon of A. T. & S. F. Hospital Association in his annual report says: "We have treated during the year ended June 30, 1897, 21,236 cases of sickness and 2921 cases of injury, a total of 24,157 cases treated, which is an increase of 951 cases over the number treated for the previous year. We have treated for the year ended June 30, 1898, 23,290 cases of sickness and 3900 cases of injury, a total of 27,190 treated, which is an increase of 3033 cases over the number treated for the previous year."

Dr. J. J. McKone, of Tacoma, says: "I have been using a method for finding the joint in amputation of the fingers and toes which is very simple, viz.: Take a pair of strong straight scissors and cut transversely across the prominence of the joint on the dorsal surface, cutting all the tissues to the bone. Then turn the scissors to an angle of forty-five degrees and cut again, still keeping both blades of the scissors in the wound, and moving the tissues with them. By this method one blade is sure to enter the joint, when the amputation can be finished with the scissors, which are far superior to the knife. The rule laid down in the books for finding the joint only tends to puzzle the average man; and while a surgeon of much experience can easily strike the joint, it must be remembered that every physician is called upon to amputate fingers and toes, and it is very embarrassing for a country doctor, when he is being assisted by the laity, to be vainly hunting for a joint."

*

International Association.—At the annual meeting of the International Association recently held at Richmond the following officers were elected: President, A. I. Bouffleur, Chicago; Secretary, L. J. Mitchell, Chicago; Treasurer, E. R. Lewis, Kansas City. St. Paul was suggested as the place of next meeting.

Florida State Association.—The fourth annual meeting of the Florida State Association of Railway Surgeons, convened on the 18th day of April, 1899, in the Board of Trade Rooms in the city of Jacksonville.

Pirogoff's Amputation.—Dr. John A. Wyeth, of New York City, in a recent discussion of Pirogoff's amputation, said: "There is one point I should like to suggest, which is the value of position in controlling hemorrhage occurring in these cases in the early stages with the least discomfort to the patient. I have performed amputations about the foot in many cases without the application of a single ligature or without the use of the tourniquet, simply by placing the patient in the extreme Trendelenburg position, with the head and chest thirty degrees below the plane of the table and the foot held up in the air. This position will control hemorrhage and save the risk of pressure in tissues of doubtful integrity."

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The phosphorus, being in its lowest state of oxidation, is free from irritating properties, and acts as a powerful hæmatogenic, thus counteracting the pathological action of the quinine upon the blood, while the tonic, anti-periodic and germicidal action of the compound is superior to that of the sulphate quinine.

Hypo-Quinidol (Gardner), being very soluble and deliquescent, is only put up in the form of pills (1 and 2 grains), protected from atmospheric oxidation and deliquescence by an impervious coating, which also conceals its bitter taste. Literature upon this new preparation sent physicians only upon request and receipt of professional card. Address:

**R. W. GARDNER, Pharmaceutical Chemist,
156 William St., New York City.**

SCHIEFFELIN & Co., New York, Distributing Agents for U. S. A.

"In regard to the question where to amputate, I am on record as considering the foot as one bone. I have for fifteen years written upon the point that the level of the incision through the bone should be made regardless of anybody's idea, but should be made in strict conformity with the anatomy of the foot, and the amount of tissue to be saved. Hey's, Pirogoff's, or any other person's amputation is not the amputation.

"One other point in regard to lesions where the foot is to be taken off. I think the great principle of common sense should be applied to the anatomy of the foot, and we should save all we can so long as it does not interfere with its usefulness; the application of this principle makes the true surgeon."

Public Service of Railways.—The aggregate number of passengers carried during the year ending June 30, 1898, as returned in the annual reports of railways, was 501,066,681, indicating an increase, as compared with the year ending June 30, 1897, of 11,621,483. The number of passengers carried one mile during the year was 13,379,930,004, there being an increase of 1,122,990,357 as compared to the year previous. The increased density of passenger traffic is shown by the fact that in 1898 the number of passengers carried one mile per mile of line was 72,462 as compared with 66,874 for the previous year. The corresponding figure for 1893, however, was 83,809. The number of tons of freight carried during the year was 879,006,307, there being an increase of 137,300,361. The number of tons of freight carried one mile was 114,077,576,305, which, compared with the previous year, shows the large increase of 18,938,554,080. The number of tons of freight carried one mile per mile of line was 617,810, which is 98,731 greater than the corresponding item for the year preceding.

The Medical Review.—We are pleased to note the improvement in the *Medical Review* of St. Louis, which has recently passed into the hands of Dr. H. W. Loeb. The *Review* is giving a large amount of excellent literature in every issue.

Death of Dr. Ormsby.—Dr. O. B. Ormsby, one of the oldest and most respected physicians in Southern Illinois, died recently from meningitis.

Elected.—Dr. J. L. Wiggins, of East St. Louis, Illinois, has been elected to the chair of anatomy in the St. Louis College of Physicians and Surgeons. Dr. J. O. DeCourcy has resigned the chair of gynecology in the same school, and Dr. Otto Sutter has been elected to the professorship



Materia Medica and Therapeutics. An Introduction to the Rational Treatment of Disease, for the use of Students and Practitioners of Medicine. By J. MITCHELL BRUCE, M. D., F. R. C. P., etc., Physician and Lecturer on Medicine at Charing Cross Hospital, London. New (6th) edition, revised and enlarged. In one 12mo volume of 618 pages. Cloth, \$1.50, net. Lea Brothers & Co., Philadelphia and New York. 1899.

The object of this work is shown by the following excerpt from author's preface:

"This book is chiefly therapeutical in its scope, and is intended to be a rational guide to the student and practitioner of medicine in the treatment of disease. At the same time the materia medica has not been sacrificed. On the contrary, it will be found to be set forth in detail by the adoption of a *natural* and concise arrangement, which presents the subject in such a form that it can be quickly appreciated and easily remembered. The author attaches importance to the plan which he has adopted in the description of the Special Therapeutics, and which consists in systematically tracing the physiological actions and uses of the different drugs in their passage through the body, from their first contact with it locally until they are eliminated in the secretions. In the part of the manual devoted to General Therapeutics he has further departed from the ordinary arrangement by discussing the actions and uses of remedies, not under the headings of artificial groups, but of the physiological systems of the body (digestion, respiration, etc.), so as to conduct the student from facts with which he is familiar to the great principles of treatment."

Practical Diagnosis. The Use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M. D., B. Sc., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Fourth edition, enlarged and thoroughly revised. In one octavo volume of 623 pages, with 205 engravings and 14 full-page colored plates. Cloth, \$5.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

The book is divided into two parts: "The Manifestation of Disease in Organs," and "The Manifestation of Disease by Symptoms," the first being regional, the second dealing with general and special symptoms, such as fever, headache, vomiting, pain, etc. Dr. Hare has aimed at maximum convenience and the ingenious system of cross-indexing consummates the ease and facility of the book for ready reference. This book

is a companion to the author's work on Practical Therapeutics, and, taken together, they form a complete and up-to-date work on Practice of Medicine.

Chemistry. General, Medical and Pharmaceutical, including the Chemistry of the U. S. Pharmacopœia. By JOHN ATTFIELD, F. R. S. New (16th) edition. In one royal 12mo volume of 784 pages, with 88 illustrations. Cloth, \$2.50, net. Lea Brothers & Co., Philadelphia and New York.

No introduction is needed for this work, which has for many years been considered a standard text-book. The present edition shows many improvements over the last.

The Mineral Waters of the United States, and Their Therapeutic Uses. With an account of the various Mineral Spring localities, Means of Access, etc. By JAMES K. CROOK, A. M., M. D., Adjunct Professor of Clinical Medicine and Physical Diagnosis at the New York Post-Graduate Medical School, etc. In one octavo volume of 580 pages. Cloth, \$3.50, net. Lea Brothers & Co., Philadelphia and New York. 1899.

The medical profession and the laity will be equally interested in this, the first work, which gives an authoritative and practical knowledge of the mineral waters of the United States. European nations have appreciated the health and wealth-giving powers of their natural waters, but Americans have yet to learn that their own country contains the close counterparts of the best foreign springs, and that the American spas compare favorably with the most highly developed European resorts in charm of scenery and surroundings and in facilities for comfort. The work includes all the principal springs in use to-day. Every variety of mineral water is represented, and the essential considerations indicating the therapeutic uses of such waters are clearly given.

The Principles of Bacteriology. A Practical Manual for Students and Physicians. By A. C. ABBOTT, M. D., Professor of Hygiene and Director of the Laboratory of Hygiene, University of Pennsylvania, Philadelphia. New (5th) edition, enlarged and thoroughly revised. Handsome 12mo, 585 pages, 109 illustrations, of which 26 are colored. Cloth, \$2.75, net. Philadelphia and New York: Lea Brothers & Co.

The new edition is larger and better illustrated than the former ones. The work is essentially practical, particularly in its instructions for laboratory work.

New Hospital.—St. Joseph's Sanatorium is the name of a new hospital which was recently opened in St. Louis. It is located on McRee Avenue, near Shaw's Garden, in Tower Grove. The chief of staff is Dr. James F. Roach.

NEW REMEDIES.

Hemalbumin in Chlorosis and Anemia.—Doctor Golinier (*Deut. Med. Zeit.*) recommends hemalbumin for the relief of chlorosis, anemia, and gastric and intestinal catarrhs. An effective iron preparation, provided it contains nutrient material in a predigested condition, especially albuminates, whose absorption and assimilation requires no tax upon the digestive system, is the treatment *par excellence*. Such a preparation of iron is found in hemalbumin. It is a powder readily soluble in hot water or alcohol, and contains all the salts and albumins present in the blood—*i. e.*, hemoglobin with hematin, serum albumin, and paraglobulin, in the form of albuminates. Therefore, hemalbumin closely resembles fresh blood in its composition, the fibrin alone being absent. The iron effects of the hematin, together with the nutritive influence of the albuminates present in this preparation, when administered in appropriate cases, are promptly manifested. The dose of hemalbumin is fifteen grains three times a day.—*Medical News*, April 15, 1899.

Eczemacide.—Realizing the necessity for a preparation upon the efficacy of which the medical profession can depend, The Searle & Hereth Co., of Chicago, have, after a long and careful clinical study of eczema and its allied affections, produced a preparation—"Eczemacide, S. & H." A corrective and curative has been carefully selected for each of the pathological conditions which characterize the disease; therefore, its effectiveness is not due to any one or two of the ingredients entering into its composition, but to the combination.

It is composed of thymenthol, glycerine, and nitric acid, with fifteen grains of acid nitrate of mercury to each pint.

The glycerine acts as an emollient, softening and soothing the inflamed tissues, and, owing to its non-drying property, the effect is lasting.

The nitric acid being present in but a small amount, acts as an escharotic to the morbid tissue, which action is due to its oxidizing property. Owing to the presence of glycerine, the cauterized tissue is not allowed to become dry and harsh, as it might then become an irritant.

The acid nitrate of mercury is a stimulant and alterative, and is unquestionably prompt and reliable for the destruction of advancing or continuous ulcerations.

The practical value and use of thymenthol is very apparent in this preparation. While the previously mentioned ingredients have as their duty the correction of the pathological conditions causing the disease, the purpose of the thymenthol is to maintain the new tissues in an aseptic condition, and thus render further invasion unlikely and a recurrence improbable.

We take pleasure in commending this preparation for the use of the medical profession, believing it will prove of value in the treatment of eczema and many of its allied diseases.

Dr. Edmund Chaumier, of Tours, France, who has made an exhaustive study of the properties of orphol, recommends it in his monograph in the treatment of cancer of the stomach, gastric ulcer, dyspepsias, gastralgia, dilatation of the stomach, chronic gastritis, the gastritis of tubercular patients, indigestion, food poisoning, cancer of the intestine, fæcal retention, typhlitis, appendicitis, typhoid fever, dysentery, cholera, uræmic diarrhœa, phthisical diarrhœa, infantile diarrhœa, simple enteritis, hæmorrhoids, fistula in ano, anal fissure, and rectal prolapse. He prefers it to all other intestinal antiseptics, from the fact that it in no way irritates the disease tissues. After many trials, he selected orphol as the most active intestinal antiseptic for infantile diarrhœa. Orphol, he says, disinfects the intestine, and while it combats the diarrhœa, it tends to prevent the nervous troubles, fluxes, etc., which seem to be the result of the absorption of microbic toxins from the intestines. He says the subnitrate of bismuth is very inconstant in its action in infantile diarrhœa. It sometimes causes an abrupt stoppage of the diarrhœa, to be followed by constipation for a day or two, with a subsequent return of the loose discharges. Orphol does nothing of the kind; its action is progressive and more sure.

Admitted to the French Markets.—It should be matter of some gratification to the manufacturers of Oakland hydrogen dioxide to know that their solution is admitted to the French markets.

The extravagant claims boldly set forth by some manufacturers of pharmaceutical products are frequently not found true when the contents of the packages are examined, and the French government has incorporated in its customs regulations a wise provision which prohibits from its markets all proprietary medicines which do not comply with the statements made on the accompanying label, and with the pharmacopœia requirements of the country where the goods are manufactured.

All imports are examined by expert chemists, and those which fail to pass a rigid investigation are prohibited.

The fact that Oakland hydrogen dioxide is admitted is equivalent to a guarantee from the French government that the article is as represented and worthy of confidence.

If some similar regulations existed in our own country the profession as well as the public would be protected from the assaults of unscrupulous manufacturers, and many of the conflicting clinical results so often obtained by the physician would to a great extent cease.

The bichloride of mercury is an inefficient germicide in the presence of grease, and hence it is essential to first remove the latter by means of alcohol, ether, and like solvents. Albumen forms an insoluble precipitate with this form of mercury, so that the resulting compound is practically inert. Hence, the value of albumen as an antidote to corrosive sublimate poisoning. It has, however, been found that the albuminate of mercury in soluble form, as presented in the neutral soap known as sapodermin, is a powerful germicide with marked penetrating properties. At the same time it is non-irritant, non-toxic, and non-corrosive. The soap is made of the purest materials, and is so formulated as to make a good nutrient to

the skin. Sapodermin is used for general antiseptis, and is also of especial value to the dermatologist in the treatment of all skin diseases due to parasites.

Euquinine as a Substitute for Quinine.—William Summerskill, in the *Therapist* of April, 1899, claims that in euquinine we have a splendid substitute for quinine, it being particularly indicated in those who suffer from headache, fullness of the head and slight deafness after the administration of quinine. Euquinine is ethyl-ether of quinine-carbonic acid.—*Medicine*, July, 1899.

Further information on euquinine may be obtained from Herf & Frerichs, Chemists, St. Louis.

In the warfare on microbes which of necessity forms so important a factor in modern surgery, too much care cannot be devoted to the ammunition. Pus must be removed or destroyed; its formation prevented. Alcohol in certain strengths is well known to be a very good germicide. Camphor and menthol also have their merits for this purpose. For some time a combination of these with hydrogen peroxide has been in use in the hospitals of Berlin, and has been found to be a superior antiseptic. The laboratory tests show marked results indicating that these solutions have a germicidal power exceeding what would be expected from the sum of the ingredients. Camphoroxol and menthoxol, as these solutions have been called, not only are powerful germicides, but harmless as well. They do not irritate; they stimulate the growth of healthy granulations, and, besides, are very stable solutions which retain an undiminished activity for a very long time. Sterile gauze wet with a ten per cent. solution forms a neat and most efficacious dressing for any wound surface, and possesses the merit of being not only a powerful, but also a continuous antiseptic. As of minor importance, perhaps, it may be remarked that freely diluted with water they form a very pleasant, refreshing and efficient mouth wash.

Quinoliv.—I do not recognize that there is any need of discussing the question as to the palatability of quinoliv. That is a fact which admits of no dispute. Quinoliv is true to its name—a “*tasteless* sulphate of quinine.” In full definition we style it a “*tasteless* sulphate of quinine with olive oil.” But—with doleful experience with certain emulsions to fortify the doubt—there comes up the question as to whether this preparation may not lose some of the therapeutic qualities of its sulphate of quinine. This, indeed, might well be alleged with plausibility of reasoning; but intimate consideration procures a ready and distinctive denial. The conception of some physiological actions by therapeutists are fearful and far-fetched; and this is one instance. For myself, I cannot conceive of even a remote possibility of the kind occurring; and it is a satisfaction to know that both laboratory work and clinical experience carry proofs. I fail to find any difference between the therapeutical application and physiological action of the plain sulphate and quinoliv in the stomach.

I do not much care in what form, manner or character quinine reaches the stomach, as it is sure to diffuse into the blood with the greatest facility. As contained in the bark, the alkaloid is readily dissolved out by

the gastric juices. "A five-grain dose is a five-grain dose, cloak it, thrall it, or blackball it." As far as the gastric action goes, olive oil is simply a menstruum, and a good one. It neither synergizes or antagonizes the action of the quinine in the stomach.

And here these words will be critically repeated: "In the stomach?" I make the distinction of purpose. But, it will be urged, it is only the gastric action that is reckoned. Bartholow has well said: "If any portion of cinchona bark or its alkaloids fail to be absorbed in the stomach, and pass into the intestines, it will, most probably, be excreted and escape with the fæces; for the alkalinity of the intestinal juices will hinder absorption or prevent it entirely." This is good reasoning, and embraces the view that is generally indulged. No observer gainsays this—quinine is intestinally wasted.

Now, notice, as a valuable fact, quinoliv, fully the equal of the plain sulphate in the stomach, is *not* intestinally wasted.

In the metamorphosis of animal fluids, olive oil plays a prominent part when properly ingested. Oil is a very important material in intestinal digestion, and olive oil is very like the molecular basis of the chyle—finely comminuted fat. Taken in as quinoliv, it undergoes the emulsionizing process in the small intestine, and by aid of the biliary and pancreatic secretions. It then enters the veins and lacteals, carrying the quinine with it, and, in fact, being absorbed the more readily because of the presence of the quinine. Now, what is the advantage? It is notable and three-fold.

It is economical—no intestinal waste.

It is sustenat—of true food value.

It is antiseptic—neutralizing and destroying the ever-present bacilli of the small intestine.

Quinoliv then, being absorbed and well utilized in the small intestine, the quinine purchases the very largest advantage, and in addition to its other availability as indicated, has a more direct influence on certain disorders. For instance, diarrhœa, dysentery, and jaundice, where the disorders are due to structural alterations of the liver and the glandular apparatus of the intestine. Again, in treating the malarial fevers, not infrequently an irritable condition of the stomach precludes gastric action; in such instances quinoliv is remarkably efficient. For cholera infantum I should prescribe it confidently, as it is effective when every possible combination of astringent and laxative fail. For intestinal catarrh, where mucus is voided and vomiting of a yeasty material occurs, the morbid state of the mucous membrane on which the disorder depends is rapidly healed, and the micro-organisms are destroyed. For skin diseases, quinoliv is preferable to the plain sulphate every time, and for obvious reasons.—WILLARD H. MORSE, M. D., Consulting Chemist and Therapeutist, Fellow of the Society of Science (Lond.), American Director of the Iamatological Bureau, etc.

Off for Europe.—Several St. Louis physicians are spending their vacations abroad. Among them are A. C. Bernays, C. H. Hughes, Fayette C. Ewing, M. A. Goldstein, Frank J. Lutz, E. C. Renaud and James Moores Ball.

Interstate Medical Journal.

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EDITORIAL DEPARTMENT.

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Address all communications, news of medical interest, subscriptions, etc., to the INTERSTATE MEDICAL JOURNAL, CENTURY BUILDING, ST. LOUIS, MO.

SHOCK.

Shock has been a subject of deep interest to every surgeon who has been called upon to treat the varied traumatic accidents and injuries to man. The pronounced and self-evident effects of shock, the rapid transition from the strength and exuberance of life to the ablated condition and cessation of all animal function constitutes to every conscientious and thinking surgeon the most dramatic incidents in life's tragedies.

In spite of the close attention which pathologists have given this subject, they have utterly ignored a factor which has a far-reaching and constantly powerful influence. We refer to the influence of inherited psychic elements. These elements have been impressed upon man from his very beginning; and there can be no doubt that inherited dread or fear is often as profound in its effects as the original traumatism. The writer believes that in hydrophobia, tetanus, cancer, and allied troubles that this perpetuated, inherited fear has been an essential cause for an invariable fatality. This same cause is deeply the basis of the dangerous elements in traumatic shock. The writer does not believe that there has ever existed a pure case of physical shock. In every instance of physical shock the psychic element is ever present and constantly manifest.

In cases of violent injuries where the injured see the extent of the damage, this inherited fear produces as profound a psychic shock as the original traumatism a physical injury. The writer for many years has been fortunately placed in a position where he has seen over two thousand railway injuries annually. He has a tabulated list of over fifty-two thousand cases, and in a study of this list of accidents and injuries can plainly show

that the most remarkable recoveries from traumatic shock have been where the psychic element has been largely eliminated by a series of fortuitous circumstances. It can be shown that shock has been fatal in proportion to the psychic factors engendered; that in many accidents which have occurred at night, when harrowing circumstances were modified and the intensity of the surroundings were mellowed and the psychic factors lessened, remarkable results followed. It can be demonstrated that in ordinary injuries which invariably recover that this same class of injuries, when surrounded and forcefully manifested by intense psychic factors, a fatality occurs which can only be explained on the basis of the intensity of the psychic influence engendered in the process of the accident.

It will be manifest to any who will investigate that there is no such thing *per se* as pure physical shock; all shock must have more or less of a psychic factor, and the inherited elements of fear engendered in man in the process of his growth are prominent and unceasingly active. One has only to read the literature of the subject to see how mystifying is the general opinion on the subject of shock. It is not our purpose to deny the fact that suddenness and locality have a paralyzing influence on the central organs of circulation; but we maintain that such an occurrence is only an exception—never the rule. It is our belief that an inherited constitutional alarm has killed more people than the paralyzing influence of rapid shock. We maintain that it has not yet been demonstrated whether it is the pronounced influence of the shock in many cases—whether its origin is in the spinal cord or brain; but we do maintain that in a vast number of cases the influence of sight and the inherited alarm is the cause of a greater number of deaths than has heretofore been accredited.

THE CHICAGO DRAINAGE CANAL.

The attention of the lay and medical people of this city is beginning to be attracted to a public menace in the shape of an impending pollution of the drinking water of this city by the sewage of the city of Chicago which will be discharged into the Illinois river and thence into the Mississippi. What brings the matter so forcibly to our minds at the present time is the outbreak of typhoid fever in the city of Philadelphia, the origin of which has been clearly traced to a pollution by sewage of the Schuylkill river, from which source the city of Philadelphia derives its drinking water. Of course, the building of this drainage canal should have been opposed vigorously at its very inception by the people and legislators of this city and of the other towns scattered along the banks of the Mississippi. This was not done; on the contrary, the legislators of this city have seemingly watched the building of the canal apathetically, and now, at the time when its completion is a matter of but a few months' more work, most vigorous efforts are to be made to obtain congressional prohibition or supreme court injunction against the operation of aforesaid canal.

The authorities of Chicago contend that with the great dilution of the sewage with lake water that the danger of pathogenic bacteria carrying disease to the city of St. Louis is done away with, and that the process of oxidation and nitrification will surely render all micro-organic life inert. This is their sole argument in defense of the use of the canal; and they

say, furthermore, that the "only people who are opposed to the working of the canal are those experts who are in the pay of the city of St. Louis." Their arguments are rather antediluvian and unscientific when we consider what the authorities say in this regard. Broadly speaking, we can say that "there is no river long enough to purify itself after once being polluted by sewage." Prudden found that the typhoid bacillus can live in ice for one hundred and two days. That typhoid bacilli can live for a long time in polluted drinking water is proved by the many instances of typhoid fever epidemics in statistics, such as that of Lausen, Switzerland; Caterham, England; Plymouth, Pennsylvania, etc. The vitality of the cholera spirillum in polluted drinking water, although not as great as that of the typhoid bacillus, is still great enough to propagate disease. We have a notable example of this in the case of the epidemic at Hamburg. In short, it is a matter of fact that the sewage of the city of Chicago, once contaminated by typhoid fever germs or cholera germs, will undoubtedly excite an epidemic of the disease in this city. The only possible remedy for the evil—for such it will be—is the establishment of a sand filtration plant for the drinking water of this city. Of course, there may be some hindrance to the working of the canal at first, but it is very probable that no legislation will be at hand to prevent its operation; but a recent decision of Judge Orlady is of interest in this regard. He said, in stating the law: "No prescription or usage can justify the pollution of a stream by a discharge of sewage in such a manner as to be injurious to the public health. *Lapse of time will not legalize a standing nuisance.*"

THE THIRTEENTH INTERNATIONAL MEDICAL CONGRESS, PARIS, 1900.

This body will meet August 2 to 9, 1900. It announces twenty-three sections.

Surgical science is under the third classification, and consists of seven sections.

The fifth and last classification of the Congress is entitled Public Medicine, and comprises forensic medicine as the twenty-second section, under the presidency of Professor Brouardel, and its secretary is Dr. Motel, 161 Rue de Charonne, Paris, the general secretary of the Medico-Legal Society of France.

The twenty-third section is devoted to medico-legal surgery, and especially military surgery. The president of this section is Dr. Du-jardin-Beaumetz, and the secretary is Dr. Chatteau, whose address is care of the minister of war, Paris.

There is a subsection on military surgery, of which Dr. Chauvel, 51 bis Boulevard Latour, Mauborg, Paris, is president. Habart, of Austria, and Lagarde, of the United States, will report on the lesions produced by small bore bullets, six millimeters being the maximum size. Demosthene, of Roumania, and Geisster, of Germany, will report on the lesions of artillery projectiles. Bischer, of Switzerland, on field hospital treatment of gunshot wounds.

This section asks for contributions from medical men who have taken part in recent wars, and all members of the society who have had military

service are requested to send their names and titles of papers to the chairman of the section on medico-legal surgery, to be forwarded to the officers of this section. Gen. N. Senn, Major Geo. Goodfellow, Col. Havard, and all other surgeons who have served in Cuba, or in any of our regiments, or in the hospital service of the army or navy, are invited to contribute to this section.

If contributions are offered the section on medico-legal surgery of the Medico-Legal Society will be represented, as well on military and naval surgery as in railway surgery, for which, as yet, no department has been assigned in section 23, but it could be embraced or represented under section 22, when the organization of that section is completed.

Every railway surgeon who will contribute a paper for this department is invited to send his name and the title of his paper to the editor of this journal, to Mr. Clark Bell, 39 Broadway, New York City, who is chairman of the section on medico-legal surgery, or to the secretaries at Paris direct, if he prefers.

Dr. Cuneo is president and Dr. Lanier is secretary of a subsection on naval surgery. Their address is care of the minister of marine. Surgeon Fontaine will report on care of wounded aboard ship in action; Busch on hospital ship.

As we have fitted out the finest hospital ships in the world, for our Manila expeditions, it is hoped that some of our members will make reports on these for that Congress.

C. B.

THE ROLE PLAYED BY THE URINE OF TYPHOID FEVER PATIENTS IN SPREADING THE DISEASE.

With the vast amount of scientific investigation now going on in the different cities, both at home and abroad, much that has been hitherto unexplained or else misinterpreted is being brought to light. Especially is this true along the lines of preventive medicine. While we have heard much concerning the danger resident in typhoid fever stools, and the role enacted by them in the propagation of the disease, very little has been said about the infectivity of the urine of these patients. Within the last five years several good pieces of work have been done by European and American medical men in the isolation of typhoid bacilli from the urine of infected patients. It has been proven beyond peradventure of a doubt that the bacillus typhosus can be excreted in the urine in the full bloom of its vitality with or without the presence of a renal lesion. In other words, the urine of every patient infected with typhoid fever must be taken to be a possible disseminating agent in the production of an epidemic of typhoid fever, and accordingly just as stringent measures should be enacted towards the disinfection of such urine as are taken in the disinfection of the excrement from the intestinal tract. In fact, more than careful attention should be given to the urine of typhoid fever patients, for it has been well established that the bacillus typhosus may linger longer in the urine than in the stools. The writer has on several occasions taken the urine from typhoid fever patients, in different stages of the disease, from the first week to the last, and in nearly every instance no trouble was experienced in separating the bacillus typhosus in pure culture.

THE TREATMENT OF YELLOW FEVER WITH THE BLOOD-SERUM OF THE BACILLUS ICTEROIDES.

Word comes to us that at last good results have been obtained in the treatment of yellow fever by the blood-serum of the bacillus icteroides, the supposed etiological factor in the production of yellow fever. The work has been done under the direction of the health officer of the city of New York, Dr. Alvah H. Doty, with the co-operation of Dr. Chas. B. Fitzpatrick. The bacillus coli-icteroides was isolated from the blood of three cases of yellow fever which were treated in the Swinburne Island Hospital. This micro-organism was regarded as a special virulent form of the bacillus coli-communis. Another culture was obtained from Sanarelli, and this corresponded exactly to that obtained by Fitzpatrick. The method of preparation of blood-serum charged with the antitoxin of the disease was essentially similar to that used in obtaining diphtheria antitoxin. Serum thus obtained succeeded in protecting guinea-pigs from the fatal effects of the disease after they had been inoculated with fresh bouillon cultures of the bacillus icteroides. The work of these men has been confirmed by the U. S. Marine Hospital Service, although the investigations of the Army Department in this line were negative. It is to be hoped that the serum has "come to stay," for in that way the redemption of Cuba will be brought about, and we will have no more visitations of the disease in our southern states.

THE PROPAGATION OF MALARIA BY MOSQUITOES.

Since the publication of the work of Surgeon Ross, of the Indian Military Service, in connection with the conveyance of the malarial plasmodium in the body of the ubiquitous mosquito, a new light has been thrown on the life-history of that parasite outside of the human body, and a more definite idea is obtained as to the manner of infection of the human being. Hitherto it has been the custom to say that in most instances malaria is endemic in regions where marshiness prevails, and where "vapors," "miasms," etc., are rampant. It seemed to be accepted as a matter of fact, without any question of a doubt, that the malarial organism arose from the earth enveloped in these vapors, and that in some way or another the individual who happened to be encompassed by such a vapor became a victim to the disease. It is now held, however, that the hæmameba Laveraniæ, or the plasmodium malarix, lives in the blood of the mosquito, and thence obtains entrance into the human blood by means of the bite of the mosquito. Of course, the mosquito thrives in a marshy region, and this is in perfect accord with the old theories as to the causation of the disease.

The endemic nature of the disease in a city like St. Louis is undoubtedly due to the marshy districts that are found here and there throughout the town. In some sections of the city we often see vacant pieces of land covered by weeds and stagnant pools—a veritable culture medium for the growth of the mosquito and its disease-producing guest, the plasmodium malarix. It can safely be affirmed that the relative frequency of malaria would be markedly decreased were these weeds removed and the foul-smelling, stagnant pools filled up wherever they exist.

CANCER GERMS.

The old question of the microbic origin of cancer has recently received a new impetus. It still remains undetermined whether there is a specific cancer germ; the pathologist being as yet unable to state whether the cause of this disease is to be found among the fungi or other ferments, as yeasts or blastomycetes, or whether it is due to the modification of the cell caused by degeneration or basic transformation. It is not necessary for us to speak of the frequency of cancer, but from recent data we learn that the average has constantly increased. Reports from Paris claim that the proportion in that city has increased from one in one hundred and twenty-nine to one in twenty-seven during the last fifty years. We do not desire to be considered captious, but we doubt the truth of these figures. Statistics can prove almost anything except the truth.

Concerning cancer there have been recently many astonishing statements, not the least of which is the claim of the infectivity of the disease. This, we feel, has not been proven, for coincidence has been used and considered as established fact. There certainly remains much more definite proof of the absolute infective nature of cancer. In the study of the germ theory of disease heredity has gradually been losing cast as a factor. The bacteriologist has relegated it to a position of positive non-influence. We do not believe that either in cancer or tuberculosis heredity is a non-acting factor and that infectivity is the all-essential cause of these diseases; on the contrary, we believe hereditary influences to be a pronounced and constant cause in many instances, more definite and influential than infectivity.

The attempt to isolate the supposed cancer germ has been actively undertaken by M. Bra and his co-worker, M. Chaussé. These gentlemen claim to have isolated certain parasitic elements in cancerous tumors. The elements are found in the blood of the patients, and are described as follows:

"This parasite has the form of spherules and cylindrical cellules. The spherules, which are from .003 to .012 of a millimeter (.001 to .004 of an inch) in diameter, are of clear yellow tint, rounded or ovoid, having a central plastic mass and a surrounding membrane. They produce spores, which are expelled from the gelatinous matter; the spherule is then empty and consists only of a honey-combed envelope. The inequality of the production of spores and of their growth forms at the surface of the spherule various crescent-shaped or sickle-shaped figures which have been described by other observers, but attributed wrongly by them to coccidia."

LONGEVITY.

We notice that Mr. Geo. Humphrey has arrived at a comparatively active conception of the secret of longevity. Out of a thousand persons whose life-history he obtained, seventy-four were centenarians. His conclusions concerning these are marked with much good sense, and we do not know of any one who has given a better crystallized or disseminated report on the subject. He says that the primary factor in a long life consists in an inherited durability; the vital mechanism is wound up to go for a given period, and but for accidents, and often in spite of them, it will

go to the time appointed. Secondly: that an important part of the primary inheritance is good digestive and nutritive power. Thirdly: that temperance is necessary in the use of the nutritive functions, both as regards eating and drinking and the food and drinks taken. Fourthly: an energetic temperament and active habits conduce to longevity.

INUNCTIONS OF CREOSOTE FOR MALARIAL FEVER.

Maj. A. O. Fitzgerald, medical officer in charge of the Station Hospital, Belgaum, in a recent article narrates twenty-six cases of malarial fevers of different grades which were promptly relieved and cured by inunctions of beechwood creosote, having resisted the usual treatment with quinine, arsenic, etc. Among these cases were instances of tertian ague of a severe type, malarial cachexia and "malignant malaria." Among cases of malignant malaria in children, with delirium and unconsciousness, this treatment was especially efficacious and never failed to restore the patient in many instances where quinine, either per rectum or per oram, had failed to do the work. It seemed to be especially indicated where there was much vomiting and restlessness.

The manner of administration of the drug is as follows: Pure beechwood creosote, fifteen to twenty minims for a child of one year, or thirty to sixty minims for an adult, was mixed with an equal quantity, or more, of olive oil and rubbed for from five to ten minutes over the chest, abdomen, axillæ and sides. The oil was employed only to counteract the tingling and burning occasionally produced by the creosote.

A HORN-DESTROYING FUNGUS.

Professor Marshall Ward has made a very curious observation with regard to the spores of a fungus-*onygenia equina*—a horn-destroying fungus—which he obtained from a cow's horn. It has two kinds of spores: chlamydospores and ascospores. The spore nature of the former, which had not been previously described, was proved by their cultivation in hanging drops, but no difficulty was experienced in getting the ascospores to grow. Others had attempted it and failed, and Professor Marshall Ward was not more successful until he hit upon the expedient of submitting them to the action of artificial gastric juice. Then he grew them on glue and other products of hydrolysis of horn with the production of a mycelium capable of infecting horn. In communicating these observations to the Royal Society, Professor Ward expressed the opinion that the spores of *onygenia* pass through the body of an animal in nature. Extract of the cow's dung proved to be a suitable culture medium for growth of the fungus. He thinks it probable that the cattle lick the *onygenia* from their own or each other's hides, hoofs, horns, etc., and suggests that this may be the reason why the fungus is so rarely observed on the living animal. As we know very little about the composition of horn, the exact nature of the change wrought by these fungi cannot be given, but this research has bearing on the destruction of hair, horn, etc., by parasitic fungi, and will be of interest to the dermatologist.

CREMATION BY LIQUID AIR.

Liquid air is now being utilized as an agent for cremation of the human body. By its use a body is incinerated thoroughly in five minutes. In the past the crematories of the various parts of this country have employed principally coal oil and gas; the time occupied by this method varied from five to eight hours.

Mr. Tripier has demonstrated that with liquid air we can almost immediately, by freezing, petrify flesh of all kinds, by which process it becomes as brittle as ice and can be powdered up in an incredibly short time into disintegrated particles. A Mr. Seamans, of Chicago, suggested and first demonstrated the feasibility of using this agent as above indicated. His process consists of first freezing the body with liquid air, then placing it in a bag and crushing it between heavy rollers into a fine and glittering powder. It has been stated that the burning process, as employed by the Nyack syndicate, is even better than this. By the Nyack method the bodies are placed within a retort, when suddenly the liberated oxygen, through the application of liquid air, dissolves the entire body except the chalky portion of the bones, which crumbles naturally. The entire process occupies but a few minutes. If this discovery can be generally utilized, it will be a great boon to sanitation.

In this regard it is interesting to note a quotation from Milton's "Paradise Lost," which recently appeared in a lay journal:

"The parching air
Burns froze, and cold performs th' effect of fire.
Thither by harpy-footed Furies hal'd,
At certain revolutions all the damn'd
Are brought, and feel by turns the bitter change
Of fierce extremes—extremes by change more fierce;
From beds of raging fire to starve in ice
Their soft ethereal warmth, and there to pine
Immovable, infix'd and frozen round,
Periods of time; thence hurried back to fire."

JUDGE GAMBLE'S RULING AFFECTING IOWA PHYSICIANS.

Many Iowa physicians are exercised over a recent decision of Judge Gamble, which, if sustained by the higher court, will require all physicians to take the same examination in order to secure a certificate to practice in that State. There are very few physicians who could pass such an examination ten years after leaving the medical college, unless they have been close students since, and perhaps not then. When the medical practice act was passed, all physicians who had practiced in Iowa five years prior to its passage were admitted to practice without examination. This is what troubled Judge Gamble in the case where the main question was whether or not an itinerant doctor should be required to comply with the law. The learned judge held that the law is unconstitutional because it makes two classes of physicians—one that has practiced five years and one that has not—and gives one the advantage over the other. The extraordinary decision of Judge Gamble will, however, be reviewed by the supreme court, which may not sustain him.

ORIGINAL ARTICLES.

CHOLERA INFANTUM—A CONSIDERATION OF THE POISONOUS PRODUCTS OF ALBUMINOUS DECOM- POSITION AS A FACTOR IN THE ETIOLOGY OF SUMMER DIARRHŒA IN INFANTS.

By W. L. BROWN, ESQ., L. R. C. P., L. R. C. S., London, England.

"Poisons, madam," said the learned leech, "are of various sorts. There is your animal poison as the *lepus marinus* as mentioned by Dioscorides and Galen."

—*Dr. Lundin, in "The Abbot," chapter xxxii., Scott.*

IT IS impossible not to be struck with the great care bestowed upon the consideration of a proper dietary by the ancient masters of medicine. Some foods were strictly prohibited. The Assyrian despised the Babylonian because he ate fish. The Jew regarded with horror all who ate "pork," and deprived himself of many other viands regarded as dainties by other Eastern peoples. It was with the Arabs that food laws became the preponderating factor in medicine. For all food prejudices it has been sought by divines or physicians to provide a medical rationale. But when the food prejudices of one nation are weighed in the balanced judgment with those of other nations, it is difficult to see how they can be reconciled to sanitary science. But it is certain that at a very early period of the world's history the poisonous qualities of decomposing food were well recognized, and that the intensity of the poison symptoms depends upon the quantity ingested. The symptoms usually occur from eighteen to twenty-four hours after ingestion, and include nausea, pain, diarrhœa, vomiting, varying in degree. Nervous symptoms supervene, paralysis of voluntary muscles occur, loss of vision, ptosis, dilatation of pupil, and dryness of mouth.

Nearly all books of natural history have fearful accounts of the poisonous properties of certain fish. The Jew would eat no oysters, no shrimps, no crabs, no lobsters, no mussels, no whelks, no stewed eels, lest the terrible consequences mentioned in Deuteronomy (xxviii. 21) should fall upon them, plague (verse 22), pestilence, consumption, scab, itch, insanity (verse 28), and even sudden death (verse 66). But the potency of death does not solely belong to shell-fish or to fish without scales.

Autenrieth¹ mentions seventy suspicious kinds of fish, most of which, apparently, are salt-water fish living in tropical seas. The sting belly of China and Japan is so poisonous as to be used for suicidal purposes. Many fishes have colloquial names, such as "The Betrayer," "The Purging Fish," "The Poison Fish," which indicate their dangerous properties. By far the greatest number of cases of fish poisoning arise from fish which are extensively used, wholesome in themselves, but which become noxious when decomposition begins. That cases are fewer nowadays is doubtless

¹ Autenrieth ueber "Das Gift der Fische," Tubingen, 1833, p. 50.

due to the stringency of modern sanitary laws, under the operation of which, for instance, in London alone, nearly 50,000 tons of bad fish are destroyed in one year.

Idiosyncrasy in foods has also to be considered in dealing with poisonous products. In many people a combination of milk and beef-tea will produce digestive discomfort, nervous symptoms, malaise, frontal headaches and a bitter taste in the mouth. The bitterness cannot be due to "bile," which is in its healthy state not bitter, but suggests the formation of some peculiar substance thrown off by the salivary glands. Milk and eggs are reputed to have in many cases exactly similar symptoms, which, when prolonged, may affect the intellect, color the conjunctiva yellow, and be followed by vomiting and diarrhœa. Further, it has long been known that meat, fish, cheese, and milk act as poisons when decomposition has been allowed to proceed sufficiently far, and that the poisons so produced are often exceedingly virulent.

History makes it clear that the ancients were familiar with many varieties of these poisons, and knew the differences of virulence in forms of proteid matter. I have seen an Arab manuscript on animal poisons, probably a compilation from prior sources, which clearly shows that the Arabs largely used the products of putrefaction of organic matter for the purpose of poisoning food and drink. They were administered designedly in the stews and soups to compass the death of their enemies—and occasionally of their friends. The Arabs had noted the mode in which these poisons could be most effectively prepared, what period elapsed after administration before the poison acted, and what were the symptoms which indicate a fatal termination. This manuscript perhaps gives the earliest, full and clear account of the poisonous action of the products of albuminous decomposition. The Hindoos, probably long before this book was written, were accustomed to poison wells and foods with such preparations. In the mediæval ages the Jews were accused of doing this in Europe. These animal poisons were prepared by burying certain animals (usually small animals) for a number of days in a manure-heap, thereby producing (as is now known), by means of the various processes of decomposition, some specially powerful poison. To render it more deadly, these Arab poison-makers in some cases inoculated an animal with some previously known poisonous material (pathogenic microbe) or with snake-venom before killing the creature and submitting it to the process of decomposition. The Arab poisoners did not know that ptomaines were being formed, and that some of the poisons which they were using were identical in structure with the alkaloids found in the vegetable kingdom. They knew, however, that these poisons varied according to the nature of the proteid, of the organism they inoculated, and of the ferment which brought about the decomposition. There is, unhappily, every reason to believe that the ancient poisoners knew how to prepare with certainty lethal animal poisons, how to administer them secretly in food and drink so as to kill some undesirable person, and that physicians practicing amongst so learned a people had to be prepared with the knowledge of treatment necessary to combat the conditions which were brought about by these nefarious artificers. Here are some instances of their knowledge and rules of procedure. A young swallow was caused to be bitten by a

viper, then squeezed within two copper discs so made as to fit close and then allowed to remain until it became gelatinized. This gelatinous mass was the effective agent termed "Swallow Poison" in these early text-books. The Arabs were particular in noting the symptoms. This poison produced violent pain in the epigastrium, great debility and prostration, and was so deadly that it killed the patient in one day. The treatment of poisoning in this way was two-fold. The doctors tried to eliminate it by an emetic consisting of "snails and milk and radish water"—not unlike the modern treatment for infantile diarrhoea so greatly extolled by Trousseau under the name of "Eau-albumineuse." Afterwards they administered an antidote consisting, in the case of swallow poison, of a preparation made of the "ashes of the dung of the gazelle, of the sheep, and the urine of the cow, all rubbed up together." *Prima facie* it looks exceedingly unscientific, but when we remember how frequently it has been suggested by researchers that poisons produced by decomposition may, at the same time, tend to produce other alkaloids which neutralize the action of the poisonous one, the prescription of the Arabs may perhaps not be so surprising. It is certainly not impossible that the alkaloids formed in the intestine of the gazelle or of the sheep, or in the urine of the cow, could not actually contain the exact antidote necessary to neutralize the ptomaine introduced into the intestinal canal by the poison formed from the decomposed swallow.

This suggestion, though strange, perhaps, to modern ears, is but the revival of what was once a very popular usage, both in England and throughout the most enlightened European communities. Early writers teem with dissertations on the virtues and good results obtained from administering preparations derived from the contents of the alimentary canal of various animals. Thus, in England, a preparation from the canal of the sheep was, perhaps, the principal ingredient in the popular remedy for summer diarrhoea. This is expressed in Brande's "Popular Antiquities"¹ in the following rhymed prescription:

"A dram of shepe's tyrdle
And good St. Francis' gyrdle
With the hamlet of a hyrdle
Are wholesome for the pyppe" (diarrhoea).

The principle has been noted by Pliny, Dioscorides, Galen, Sextus Placitus, Rhazes, Avicenna, and a whole army of more modern medical writers. Thus, in Pliny's 28th book it is mentioned (chap. 8) that the camel's ordure burnt to ashes was used as a cure for dysentery, and, on the other hand (chap. 81), that Cyprus oxen cured themselves of griping in the abdomen by eating human excrement.² The album grecum of our modern pharmacopœias was recommended by Galen for dysentery. Galen

¹ Brande's "Popular Antiquities," vol. iii., page 331.

² It may be interesting to note that the urea part of hens' droppings was given as an antidote to mushroom poisoning (Pliny, Book 28, chapter 11), and that it was thought to act more efficaciously if the hen had been previously stuffed with mushrooms. Beef-tea, so much recommended in summer diarrhoea of infants, contains mainly excrementitious materials (*Lancet*, 1880, vol. ii., page 56) analogous to urine, excepting that it contains a similar proportion of urea and uric acid.

See article on "Extractum Carnio," *The Practitioner*, November, 1881, page 343.

pointed out that the character of animal excreta varied with the habitat and food of the animal.¹

The Arabs also used inoculations of virulent poisons derived from the decomposition of animals, as in the case of the well-known "ring" poison. One Arabic formula for the manufacture of the poisoned ring contains the brains of the gecko (a kind of lizard), viper-gall, frog-gall, and hemlock. The poison was effectively prepared and artfully concealed in the lower side of the ring-stone in the signet ring. Other forms were from the "gall of the black snake," from poisonous fungi (muscarine), and from henbane seeds.²

Modern science did not recognize any advance upon these practical facts until about 1820. It had long been believed that poisoned foods contained acids, until Schossberger suspected the organic bases as the active agent. Majendie and Gaspard also made some researches on the effects of low organisms. In 1856 Panum³ concluded from his investigations that the poison contained in putrid matter was chemical, a result which was subsequently verified by Weber⁴ (C. O.), Henner,⁵ Schweninger,⁶ Stich;⁷ and Thiersch, Bence Jones, and Dupré discovered a substance like quinine in the liver. Subsequently, Zuelzer and Sonnenschein obtained from putrid meat infusions small quantities of a crystalline substance (an alkaloid) possessing an action like atropine in producing dilatation of the pupil. Hitherto, these products had received no precise nomenclature or definition. In 1870 Armand Gautier⁸ examined secretions from animal bodies, and found that on distilling normal urines he could obtain an alkaloid containing trimethylamine ($\begin{smallmatrix} \text{CH}_3 \\ | \\ \text{CH}_3 - \text{N} - \text{CH}_3 \end{smallmatrix}$) and not merely ammonia. To the products of decomposing material from living bodies he gave the name of leucomaines. About the same time Professor Selmi, of Bologna, a toxicologist, applied the name "ptomaines" to alkaloids produced by physio-chemical action after death.

At first these products of albuminous decomposition were supposed to differ in nature from vegetable alkaloids, although Selmi (1872) was careful to say that the substances which he had examined "comported themselves in the presence of reagents precisely as the vegeto-alkaloids do." Indeed, vegetable and animal alkaloids are alike products of albuminous decomposition. There is no absolute distinction between alkaloids of animal origin and those of vegetation. There are only differences of detail which do not render less marked the resemblance which entitle them to be grouped together. "For whether they be the product of the organs of plants or formed from animal albumen by bacterial action or the cell vitality of superior organisms, vegetable alkaloids, ptomaines, and leucomaines have the same origin, the proteid material, and are identical in their genesis—proteid disintegration." The alkaloid must be sought for in the albumen molecule.

¹ Kuhn's edition of Galen, vol. xii., pages 291 and 304.

² This was alluded to by Martin Luther in these terms: "'Tis wonderful how God has put such excellent physic in mere muck. We know by experience that swine's dung stints the blood, horses' serves for pleurisy, man's heals wounds and black blotches, asses' is used for the bloody flux, and cow's with preserved roses serves for epilepsy or the convulsions of children." (Luther: "God's Work.")

³ Bidrag til Laeren om den saalualette eller septice Infection. Bibliothek offic. Laegar.

⁴ Deutsche Klinik, 1864-45-51. 1865, 2, 8.

⁵ Experimentellen Studien ueber die Wirkung faulender stoffe auf den thierischen Organisms, 1866. (Muenchen.)

⁶ Ueber die Wirkung faulender organischer Substanzen, 1866.

⁷ Pharm. Centralhalle, 1866, xvi., 10.

⁸ Berliner Klinische Wochenschrift, 1869, 12.

This brief historical *résumé* of this interesting branch of investigation indicates that proteid substances, themselves foods, may be split up to yield matters which physiological experiment has now demonstrated to act as poisons of varying activity and virulence. The potential danger of the molecular fragments of albuminous decomposition is illustrated by observing that peptones, for instance, when introduced directly into the blood causes it to lose its coagulability, induces a fall of blood-pressure and death. Though peptones are formed in the healthy body, they do not naturally enter into the circulation, being changed in their passage through the liver.

What was known to the Arab poisoners only by practice and results—namely, that the virulence of these poisons was influenced by the nature of the albuminous material undergoing decomposition—is now capable of scientific demonstration and explanation. Thus neuridine and gadinine are non-toxic, while muscarine, neurine, and choline are extremely poisonous. The rapidity and virulence of their formation is also influenced by temperature, moisture, and electrical conditions. In summer putrefactive processes go on more rapidly and become more quickly poisonous than in the cooler winter temperatures. It is not difficult to understand that poisons may be formed in the moist and warm stomach after food is swallowed, although no poisons may be found in that part of the same food which was not swallowed—a fact especially true with reference to milk albumen, and one which doubtless has a direct bearing on the production of many obscure forms of diarrhœa.

It is clear, then, that animal poisons may be formed outside the human body from proteid decomposition, a class to which Selmi gave the name of "ptomaines," and which, when injected or ingested into the economy, have a profound physiological action. The best known of these are described very briefly in this tabular form:

	PTOMAINES.	ISOLATED BY.	SOURCE.	PROPERTIES, ACTION, AND SYMPTOMS.
I.	Neurine.	Lebreich, 1865, Brieger.	Brain. Muscle.	Toxic in small doses, producing paralysis, stoppage of respiration and of heart in diastole with contraction of pupil. Antagonized by Atropine.
II.	Choline.	Strecker, 1862. Brieger. Diakonow.	Hog's Bile. Many Sources. Yolk of Eggs.	Toxic in large doses. Salts deliquescent.
III.	Muscarine.	Brieger. Schmiedeberg.	Fish, Oxidation of Choline. The fly, Agarics.	Highly toxic in small doses. No smell, no taste, syrupy, soluble in water, causes colic, vomiting, diarrhœa, disturbed vision, death in from 6 to 12 hours from loss of cardiac power. Use oleaginous purgations.
IV.	Peptotoxin.	Brieger.	Early putrefaction of proteids.	Very poisonous, soluble in water.

	PTOMAINES.	ISOLATED BY.	SOURCE.	PROPERTIES, ACTION, AND SYMPTOMS.
V.	Tyrototoxin.	Vaughan.	Cheese, Milk.	Vomiting frothy, stools watery, colic, nervous symptoms.
VI.	Methyl Guanadine.	Brieger. Bocklisch.	Horse-flesh, Oxidation of Kreatine. Finkler prior bacillus (<i>vibrio proteus</i>) when mixed with others.	A highly poisonous substance, causing violent diarrhoea (choleraic).
VII.	Mytilotoxin.	Brieger.	Poisonous Muscels.	Symptoms like curara poison.
VIII.	Typhotoxin.	Brieger.	From typhoid bacillus.	Strongly alkaline.
IX.	Tetanine.	Brieger.	From tetanus bac. Brieger obtained four poisons, of which this is one.	Produces tetanus in mice.
X.	Cholera ptomaines.	Brieger.	Cholera spirillum.	Diarrhoea.
XI.	Toxalbumins.	Brieger & Frankel.	From pathogenic bacteria, <i>e. g.</i> , Diphtheria, Typhoid, Tetanus, Cholera Sp.	Death in ten days. Death in a few days. Death in two or three days.
XII.	Mydalein.	Brieger.	Livers.	Pronounced physiological action, causes secretion of all organs with involuntary muscle tissue paralysis of hind then of fore legs, fever and purgation.

A glance at the table is sufficient to give an idea of the potency of these substances in bringing about the dreadful symptoms with which one is so familiar in diarrhoeal diseases. They must be very active when introduced into the delicate and feeble organism of an infant, upon which even a single drop of laudanum has sometimes a deadly result. One can realize the effect of minute quantities of powerful animal alkaloids on such organisms when by chance they are introduced to them.

The certainty that animal poisons are formed within the body cavity and in the alimentary canal with great readiness was demonstrated by Armand Gautier, who showed that alkaloids are not only formed in the living laboratory of organized protoplasm of the animal creation, but that they are *excreted* from it by almost every excretory organ. They have been isolated from freshly voided fæces, from urine, from bile, from saliva, and recently from sweat.¹ The blood alkaloids are separated by the kid-

¹ See *Comptes Rendu*, vol. cxxv., No. 5, August 2, 1897, p. 183.

neys and excreted in the urine in greater quantity in disease; those from urine in different diseases differing in action. But, so far as I am aware, no researches have been made with the view of isolating alkaloids from freshly secreted milk under strict sterilizing precautions.¹ At first all leucomaines were supposed to be ammonium derivatives or amides, like methylamine or trimethylamine. It is plain, therefore, that animal alkaloids do not depend solely upon the presence of micro-organisms living on the destruction of proteid material, but exist as a distinct, if perverted, function of animal cells.

The quantity formed of the noxious substances in a healthy man must be enormous. Bouchard thinks sufficient in twenty-four hours to kill him if they were absorbed.² To strengthen this view Lepine describes a case of fæcal poisoning causing death, with symptoms of atropine poisoning.

The action of some alkaloids on the intestine is instructive. Pouchet and Villiers have isolated from cholera dejecta a "base" which seems to belong to the pyridine group of alkaloids.³ Nencki discovered collidine, and Vaughan tyrotoxin, from milk; both pyridine derivatives.

The question arises whether alkaloids are produced in the intestine or are conveyed into it ready-formed. A consideration of the specific cause of cholera infantum seems to narrow this question considerably, especially when it arises in young infants who have been entirely breast-fed. Even in such favorable cases the ingestion of alkaloidal poisons with the mother's milk would not altogether exclude the case in which ptomaines or other alkaloids had been absorbed into the blood of the mother and, being excreted with the mother's milk, become a factor in the causation of infantile diarrhœa. Its importation into so many in the same district, at the same period of the year, would be a point very difficult of explanation. As a possible factor it must be borne in mind. In the case of the healthy child it is quite possible that the mother's milk should, apparently, with great suddenness develop an irritant poison powerful enough to kill a previously healthy child in a few hours. For it is certain that in the child toxic effects may result from the substances that produce no result on the adult; *e. g.*, in puerperal scarlatina.⁴

In the summer of 1885, Doctor Cash, on behalf of the local government board, made a chemical examination of some stools of infants who had died from cholera infantum, paying special heed to the character of the excretions, but chiefly with regard to the contained nitrogen. Unfortunately, the cases submitted to him were only three in number, but these he analyzed according to the methods of Dumas and Will Varrentrapp, using the fæces in a dry condition. He found serum albumen in abundance, and large quantities of casein, showing clearly that peptonization had not been carried out in the intestinal canal. He found, also, that the chlorides and phosphates of sodium were increased, and attributed this to the rapidity with which the food had been hurried through the alimentary canal. In one experiment Doctor Cash attempted to discover whether bodies having the characteristics of Brieger's ptomaines (see IV. and X. in table) could be isolated. He obtained a white crystalline pow-

¹ Lepine and Guerin: *Lyons Medicale*, No. 24, 1884.

² *Lyons Medicale*, 1884. Nos. 24 and 42.

³ Pyridine may be regarded as a tertiary amine.

⁴ See *British Medical Journal*, 1896, vol. ii., p. 628.

der, of which he made a solution and tried its effect on a frog. From his meager results he wisely concluded "that it was premature to do more than indicate the possibility of the existence of some ptomaine-like body in the excreta of infantile diarrhœa." It is extremely regrettable that further researches were not persevered in upon this most important point.

Several results have been obtained by other experimenters, both in this country and abroad, which tend to corroborate the alkaloidal origin of infantile diarrhœa. The *facies* of infantile diarrhœa presents many points of similarity with those recognized by Arab physicians and ascribed to animal poisons. The infant—generally plump and healthy—suddenly becomes hot, restless, peevish; manifests a great desire for fluids, perspires freely. After ingesting food, vomiting and purging begins; the first motion scarcely being offensive, but motions subsequent become highly offensive. Along with the diarrhœal discharge the surface temperature falls, the face grows pinched and pallid, while the internal temperature is high—axillary, 95° F.; anal, 103° F. In twenty-four hours the weight and flesh lost is considerable and blood serum is evacuated in great quantities. The breathing becomes irregular—rapid for, say, ten minutes, equal to forty-six per minute, followed by a period of sudden lengthening of the respiratory sounds and a decrease of about twenty per minute, but having no "Cheyne-Stokes" character about it.

The attempts to demonstrate by experiments on the lower animals the presence of poisonous substances in the blood of infants suffering from cholera infantum cannot be said to have been completed. Notwithstanding the prevalence of this trouble in almost every country of the world, experimental data on this point is extremely rare. I had the opportunity of studying the effect of injecting into guinea-pigs some blood serum derived from a typical case of cholera infantum which had occurred in a healthy, well-developed child a few hours before the death of the infant. Five minims of the serum, procured with the usual precautions, were injected into a guinea-pig with the result that in twenty-four hours the animal died of diarrhœa, the evacuations being loaded with serum-albumen and containing other choleraic characteristics. It was observed that a guinea-pig which had been placed along with the inoculated animal also became ill, and died in about three days. It seemed as if, in these cases, the excreta had contained poisonous material, probably an albuminate alkaloid capable of killing by ingestion with the food. It is conceivable that the poisons may have been produced by bacteria.

It was observed that by injecting the blood serum from one guinea-pig to another a stage of dilution was obtained when large doses of the poisonous serum failed to produce diarrhœa in the guinea-pig. Other experiments were made on guinea-pigs with milk serum which had been taken from the breast of a nursing mother whose infant was suffering from infantile diarrhœa. The injection of small quantities of this milk serum apparently set up severe diarrhœa in the guinea-pig, a result which makes it appear probable that even in infants entirely breast-fed, ptomaines or

¹ Compare Doctor Cash's Report, p. 13.

other poisons derived from the mother's milk may yet be a factor in the etiology of infantile diarrhœa.¹

We may recall the circumstance that Brieger or any other investigator failed to isolate any ptomaines in the *small* intestine of infants, even a day after death. They found, however, bacteria in plenty.² In the normal condition of the small intestine there appears to be some natural antagonist to the formation of poisonous alkaloids. Several workers have suggested that the inhibitory effect may be due to the influence of the bile acids.³ It has also been suggested that some diffusion of oxygen takes place between the blood of the mucous membrane and the intestinal contents which cover its surface, and that it is the influence of the oxygen which prevents the development of the poisons.⁴ But under exceptional circumstances, as, for instance, the very conditions which we are investigating, some very potent poisons have been isolated. Brieger isolated a highly poisonous derivative of guanidine,⁵ the so-called methylguanidine, and others which seem to have the property of reducing the surface temperature and causing coldness and pallor of the skin.

In the present state of our knowledge it is impossible to say with any certainty that this disease is alkaloidal or what the nature of the alkaloid is which produces this disease. Many volumes might be written on the experiments which have been conducted with a view of showing what peculiar share the ferment enzymes, bacteria, saprophytes, and organisms of a vegetable nature have had in bringing about the formation of these poisons. The question demands a prolonged and earnest appeal to that forecourt of philosophy—the laboratory of the experimenter.

Dr. — — — had a valuable cow, which became sick and seemed likely to die. After inquiry of his servants he sent for Jemmy Lafferty, who, they said, "could cure any cow in the wurruld." The cow doctor accordingly came, drenched and physicked the animal for four or five days, at the lapse of which time he waited on the doctor and pronounced her cured. The doctor, greatly delighted, put his hand to his pocketbook. "Well, Lafferty, what do I owe you?" "Owe me!" replied Jemmy, drawing himself up with great dignity, "sorra the penny! We doctors niver take money of one another."—*Exchange*.

¹ "Feed no infants artificially on milk," says Dr. R. Thorne Thorne, "that has not been quite recently boiled. I say 'boiled' because in the houses of the poor, sterilization apart from boiling, cannot be expected. But I would add there is no sterilizing apparatus that can give results comparable with those provided by nature in the healthy female breast; and I would venture further to maintain that no milk from the mammary gland of the mother ever caused the death of an infant from this specific summer diarrhœa." (*Lancet*, November 6, 1897, p. 1170.)

A question arises whether soil or other conditions, said to affect the infant, refrain from affecting the milk of the mother. Views differ on this subject.

² Brieger: *Deutsche Wochenschrift*, 1887, p. 469.

³ This is an old opinion which, in the old medical language, was expressed by Cadet, who concluded, in 1767: (1) That the bile having undergone a beginning putrefaction yields a volatile alkali which probably does not exist in the animal body, and that this volatile alkali will form with the marine acid a kind of sal-ammoniac. (2) That mineral acid at first coagulate bile, but afterwards render it sufficiently fluid to pass through paper. (3) That the needle-like salts which he found are produced by the combinations of acids with the calcareous earth present in the bile are true selenites. These are biliary concretions.

⁴ Gamgee: "Physiological Chemistry of the Animal Body," vol. II., p. 435.

⁵ See table. Brieger ueber: "Ptomaine," Dritter Theil, Berlin, 1886, p. 33.

DIAGNOSIS AND TREATMENT OF GALL-STONES.

By BERNARD S. SIMPSON, M. D., of St. Louis, Missouri.

ALTHOUGH of late years a good deal has been written on the subject of diseases of the gall-bladder and the treatment of hepatic colic, I think a few points can always be brought forward of practical interest to the general practitioner. In the last three years I had occasion to see a large number of cases of biliary calculi, of which twenty-nine were operated upon, and will now give a few general conclusions based altogether upon practical experience.

The diagnosis of gall-stones, whether of the liver, gall-bladder or ducts, is, to say the least, a very difficult one. I cannot think of any disease of the right side with which gall-stone has not been confounded, even by practitioners of long-standing experience; and it is not an uncommon affair to see cases diagnosed appendicitis, floating kidney, cancer of the liver, pancreas, or pylorus, in which the surgeon diagnosed gall-stones and proved it by the operation and consequent recovery of the patient.

In one case diagnosed carcinoma-pylorus I removed, assisted by Dr. Kress, of this city, twenty-two gall-stones weighing two and three-quarter ounces. During the last month I assisted Dr. Bernays in three cholecystotomies in which previously a similar diagnosis had been made. A good many cases of chronic gastritis characterized simply by a bad breath, a dull, undefined pain in the epigastrium, and occasional vomiting of "greenish fluid" prove to have as their etiology gall-stones or hydrops ascites vesical felleæ. The picture presented by gall-stones varies not only according to the stage in which we see the patient, but each case is likely to come to us with a different set of symptoms. To trace an attack to the incipency of the trouble is impossible. Gall-stones may persist a life-time without giving any symptoms. In about a dozen post-mortems I have seen the gall-bladder practically filled with calculi, the patients never having known of their existence, nor having complained about them. On the other hand, the passage of comparatively small stones may cause fearful attacks of pain. In my own practice a case of fatal perforation was caused by a sharp-edged stone not larger than a pea. In view of the fact that a mistaking of the condition is easy and of frequent occurrence, I will give a short *resume* of its symptomatology.

The picture of the disease depends upon the phenomena produced: firstly, by the mere presence of the stones; secondly, by the expulsion of these through the hepatic, cystic or common ducts; and thirdly, by the impaction of the calculi in the ducts, with consequent inflammatory reaction and perforation. As I mentioned before, the presence of calculi in the liver or gall-bladder will frequently give no symptoms. When stone formation proceeds to the extent of filling the gall-bladder, the patients complain of a dragging sensation and a sense of fullness in the epigastrium with occasional gastric and intestinal disturbances. These patients, without being jaundiced, present the sallow complexion usually designated as "bilious," and are subjects of the "choleric temperament."

With the expulsion of the calculi from the gall-bladder the symptoms become aggravated. The patient is taken rather suddenly with a colicky

pain, starting at the tenth rib, radiating to the side and back. The attacks of pain are sharp and frequent. In the intervals between the sharp attacks a dull ache is complained of in the epigastrium or in the region of the tenth rib. They vomit frequently and copiously; at first food, then bile, and lastly only serous fluid. During the paroxysms the temperature rises to 100° or 100.5° ; pulse often accelerated, but in a great many of the cases the pulse is slow. The urine is scant, dark, and frequently albuminous; the appetite likely to be good, but ingestion of food is usually followed by vomiting; the tongue becomes coated. Percussion and palpation are very frequently unsatisfactory. In many cases liver dullness is increased and the deep dullness of the gall-bladder can be made out. Occasionally a distended gall-bladder can be palpated, but in most cases nothing is found by palpation except a focus of greatest tenderness and a rigid rectus. These symptoms are also not constant. A paroxysm of biliary colic lasts one, two or three days, may then pass off and leave the patient free for a long time or may recur after a short interval. Jaundice, as a rule, is not present during the first attack, nor is it always present after repeated paroxysms. The most serious phase of the attack of hepatic calculi begins with the impaction and the consequences following in its wake.

While up to this point surgical interference is a matter of advisement, now it becomes an immediate necessity. The symptoms persist, jaundice supervenes, and the patient enters a state of cholæmia. The impaction of a biliary calculus leads to a series of consequences, each of which threatens a fatal issue, each calling for surgical interference; and the sooner aid is given the greater the chance not only for recovery, but for a permanent cure. Through the irritation caused by the efforts at expulsion, if not by the mere presence of the calculi in the ducts, the mucous membranes react to the extent of a purulent inflammation which frequently leads to empyæmia of the gall-bladder or abscess of the liver. Complete obstruction of the cystic duct by an impacted calculus will give rise to the condition known as *hydrops ascites vesical felleæ*.

Ultimately perforation follows, in the more chronic cases into the stomach or into a loop of the intestines; in the acute cases into the peritoneal cavity, leading to a fatal peritonitis. As I stated before, rarely are two cases seen with the same set of symptoms; just as rare is it to see a case from the beginning; and it is absolutely necessary to know which are the indications for immediate operative measures, which for temporizing. Before classifying the indications, let me say a few words about the medical treatment to which patients are being subjected with the hope of giving them relief. Of all methods heretofore advised the two most accepted are the treatment with olive oil, and the Karlsbader salt and phosphate of soda treatment. Both of these are doubtful. For the first it is claimed that it softens the calculi and so renders them easier of expulsion. This opinion may be due to wrong judgment. In ten cases of my observation, which came to the operation after a long treatment with olive oil, the calculi were uninfluenced by the oil. The treatment with Karlsbader salts and phosphate of soda cannot be said to give much more satisfaction than the one with olive oil, although it is preferable and more rational than the former. These salts, administered in the early stages, will probably shorten an attack and stop the advancement of calculus formation if

administered long enough. In cases which come to us, so to speak, at the end of the formative period, when it is only a question of nature ridding herself of the product of dietic sins of long standing, of systemic incongruities, or hereditary or congenital mistakes, salts, oil, or other medicinal proceedings are make-shifts holding out only false hopes. Instead of giving the sought-for relief, they prolong the patient's suffering, jeopardize his life, and leave him in constant dread of the near and remote consequences.

There is not only a rapidly fatal peritonitis, but a life of miserable invalidism, or a slow, agonizing death by malignant growth of the internal organs. It is my sincere belief that the starting-point of the primary cancers of the liver, biliary system, and pylorus is to be found in old scars and pressure foci caused by gall-stones. When, then, shall medicines be administered, and how long? When shall a patient be told that the only hope for a cure now lies only in surgical interference? In weighing the *pro* and *con* of the operation, the full import of a biliary colic has to be taken into consideration. A foreign body endangering the life of the patient by its very presence, and still more by its efforts to be released, has to be gotten rid of. Suppose nature succeeds in its attempt, the possibility is that an injury as severe and as dangerous as the calculus itself remains. Rents in the mucous membrane, liable to an infection of the ever-present bacillus coli communis, or to stricture formation with its sequelæ of complete obstruction of the respective ducts, and future malignant growths originating in these scars are, to say the least, of frequent occurrence. If the attempt at the delivery fails, there arise the dangers of partial or complete obstruction of the bowel by the overfilled gall-bladder pressing on the duodenum and obstructing its lumen, or by inflammatory adhesions formed about the focus of disease. Taking these points into consideration, a patient need not appear before the eye of the physician already in the throes of a perforative peritonitis for him to decide that of the many evils the surgeon is the least, and that the comparatively "danger-free" operation is to be preferred to the spontaneous delivery of the calculus outside of the pale of surgical judgment and control. Patients must be taught to look upon hepatic colic, as upon appendicitis, as essentially a surgical disease; and as such the practitioner must learn to handle the case from the beginning. Letting the patient know he may at any time have to undergo an operation for his relief and cure will take a great deal of the responsibility off the shoulders of the attending physician, and also alleviate the work of the surgeon, who will not be forced to operate on patients lying *in extremis*.

While it is undoubtedly true that the greatest power in the hand of the physician is the ability to allay pain, it is to be remembered that pain is the most alarming symptom to the laity. To relieve pain in cases where life depends upon rapid and decisive action is to encourage procrastination and to increase the danger. Without obtunding narcotics, a case of biliary colic can hardly be managed; and yet extreme care should be exercised in the administration of opiates, as they not only lull the patient into the belief that a cure is being effected, while in reality he is lingering at death's door, but also mask the symptoms to the eye of the experienced practitioner.

The following indications for immediate operative interference can be accepted:

1. Any case of hepatic colic in which a tumor of the gall-bladder can be made out.
2. Persistent jaundice with pain, even at the risk of finding a cancer.
3. Recurrent biliary colic.
4. Biliary colic followed by persistent jaundice.
5. Colic with a prolonged rise of temperature and high-going pulse.
6. Obstruction of the ductus communis choledochus, evidenced by jaundice and acholic stools.
7. Obstruction of the bowel and peritonitis.
8. Empyema of the gall-bladder and abscess of the liver.

A state of cholæmia does not contra-indicate the operation.

The object sought for in the operation is to relieve the patient permanently of the foreign bodies before any lasting serious injury is done, and to accomplish this at as small a risk to the patient's life as is consistent with a major operation. The procedure nearest fulfilling this is the cholecystotomy. The operation, which I follow in its outlines, given first in this country by Dr. Bernays, can be done rapidly, leaving a small scar, without any tendency to rupture, while under moderately favorable circumstances the mortality is *nil*.

In twenty-three cases of my observation in which the original operation was done, no fatality resulted. In six other cases in which these lines could not be followed out on account of grosser injury and malignancy, two deaths took place.

The *modus operandi* of the ideal cholecystotomy is an exceedingly simple one. An incision one and a half to two inches long is made at the end of the tenth rib, or right over the gall-bladder, if the same is prominent, running parallel to the outer edge of the right rectus muscle. The superficial structures are divided in layers. Whatever bleeding appears is stopped before the peritoneum is opened. After opening the peritoneum it and the skin are caught in Bergman forceps, two on each side; these are intrusted to assistants. This forms a funnel-like opening which can easily be closed by doubling the forceps over, and is large enough to allow the introduction of the finger for diagnostic purposes. The first incision is made that small because it is sufficient for all manipulations in a simple cholecystotomy; while in case of unexpected complications which may necessitate the median or oblique incision, it can readily be closed by two stitches without any detriment. Having opened the peritoneum, an assistant presses upon the edge of the liver above the incision; this nearly always forces the fundus of the gall-bladder down into the mouth of the wound. If this is not the case, the surgeon passes a finger into the wound, locates the gall-bladder and secures the fundus with a pair of strong, dull-pointed Martin forceps. Having the gall-bladder thus of easy access, he proceeds to examine the topography and to divide whatever adhesions are present. If he finds no difficulty in moving any obstruction present in the ducts, he sews the fundus of the gall-bladder into the wound, closes the remaining opening of the peritoneum, and incises the gall-bladder. On the other hand, if he does not succeed in clearing the ducts, his proceeding

is somewhat different. With two subserous stitches the fundus of the bladder is secured to the fascia in the upper end of the wound; a large sponge is introduced under the gall-bladder, walling off the peritoneal cavity; other sponges are placed more superficially and on the outside all about the field of operation. The bladder is now incised and the lips of the incision held up with forceps. After the contents of the bladder have been allowed to escape, and all the vestiges of bile and calcareous dust held in suspension have been carefully wiped away, the superficial sponges which have become soiled are removed. The surgeon now, one finger in the peritoneal cavity, gently pressing against the bladder and ducts, removes with a flat, dull spoon the solid contents present. The calculi imbedded in the ducts are usually very obstinate and require a good deal of patience and skill for removal. This can most frequently be accomplished by gently milking the ducts upward; occasionally a large calculus cannot be drawn out through the fundus, but has to be pushed down into the duodenum. In rare cases the stone rests so tightly in its place as to necessitate an incision of the duct (choledochotomy). After the bladder and ducts have been cleared and the latter carefully examined for stricture, the rest of the fundus is stitched to the fascia by two or three stitches in each lip of the incision. The rest of the peritoneal gap and the skin wound, not including the gall-bladder, are then sewed up. I prefer silk in all abdominal work, as the only suppuration I have seen has been due to catgut. The gall-bladder is then drained, either with a rubber tube inserted down to the neck, or by a small gauze wick which is changed daily. Irrigating and washing is unnecessary, the wound closing spontaneously when the drain is removed. In case the gall-bladder is so tied down by adhesions as not to be reached, or if very small and covered by the edge of the liver, the incision recommended will be found inadequate, and will have to be enlarged by an incision beginning at the upper extremity of the first incision running parallel to the border of the ribs toward the scrobiculus cordis for three to four inches. This will give enough space for any manipulation and can be closed without much tension. In these cases the fundus cannot be sewn into the mouth of the wound, but has to be drained from its original position. For this purpose a large new sponge is introduced against the omentum to wall off the abdominal cavity in order to receive any chance leakage. This sponge is allowed to project with the rest of the drains through the most dependent portion of the abdominal wound.

The combined longitudinal and oblique incision is also the best in case a choledochotomy or cholecyst-duodenostomy has to be performed, where a stricture of the ductus communis choledochus is found. In the latter operation it must be remembered that the incision into the duodenum must be twice the size of that into the fundus of the gall-bladder, as otherwise the contents of the former will readily enter the latter and lead to a repetition of trouble. In regard to the healing of the fistulous opening, I can say that it usually heals in a very short time. It has been my experience to see them close in from twelve to twenty-five days. The cause of a prolonged discharge is always one of two factors: (*a*) Either a hidden infected stitch, or (*b*) a stricture of the outlet. The first is easily treated and remedied; the second nearly always necessitates a secondary

operation, consisting either of cutting the stricture or of uniting the gall-bladder and duodenum.

The diagnosis here depends upon the fact that the fistula shows a tendency to heal, opening after a few days, again and again, to discharge bile. The discharge is usually preceded by pain of a throbbing character which is very severe.

522 Washington avenue.

IS INEBRIETY HEREDITARY?¹

BY THE SOCIETY FOR STUDY OF INEBRIETY, OF LONDON, ENGLAND.

AT A MEETING of the Society for the Study of Inebriety, held at the Medical Society's rooms on Thursday, the 13th inst., the subject of Heredity in Relation to Alcohol was discussed.

Owing to the recent death of the President (the late Dr. Norman Kerr), Professor Sims Woodhead, of Cambridge University, occupied the chair, and in introducing the subject said: "I had hoped that Dr. Archdall Reid would be here and that we might be able to have a discussion, since from my reading of his works I was satisfied that we should not see, eye to eye, all the points which he has raised. We shall miss the words and the presence of our late President, who had given much time and attention to the study of this subject. If he had been present we should not have agreed on many points, either; but on the discussion of this subject there might have been found, at any rate, certain common ground on which we might all act. It has been one of the most hopeful features of the temperance movement that men have devoted time and ability to the consideration of this question, quite apart from the moral and the immediate national point of view, and have attempted to give this question scientific attention. They have looked at it from a broader standpoint and have applied certain scientific factors to the question to get light out of what has been up to the present chaos, from the point of view of the physiologist. A great deal has been done both by members of this and other societies. When we come to the region of philosophy, perhaps a somewhat unsafe region in connection with this question, there has also been so much done. If Dr. Archdall Reid's work on heredity, even though it were all wrong, had done nothing more than direct attention to the question, it would have been a source of satisfaction that the question had been approached from this standpoint. We have had a new set of men attacking the question from a different point of view.

"I have followed this discussion on heredity with considerable interest. We have had interesting papers brought before this society by Dr. Brown, Dr. Archdall Reid, and by the late President, and the ball has been thoroughly set rolling.

"I shall begin by dissenting in a very wide measure, indeed, from many of Dr. Reid's statements, and I do it for this reason; that I

¹ Reported especially for INTERSTATE MEDICAL JOURNAL.

think he has taken the question of heredity from a wrong standpoint. I am going this afternoon to speak of heredity as relating to disease, and to point out that closely connected with it we have the question of immunity. I cannot hold for a moment that we must have a drunken nation before we can have a sober people. I think that it is a standpoint which may be argued about, though in discussing it we are wandering, perhaps, into academic grounds rather than keeping within the region of practical facts. If we were to say, for instance, that typhus fever must eliminate all the people who are susceptible to the disease in order that we may have a nation of people immuned to typhus, I fancy that most of us would say that the person who propagated that theory was not looking at the subject in precisely the same light as individuals would look at it. It will be said that in typhus you are not dealing with a condition that you cannot avoid, but with something in which human beings take a certain amount of pleasure. But we must look upon *drunkenness*, at any rate, as something that is to be got rid of. Applying that argument, should we for a moment say that because the population is liable to typhus fever that either we should take care that the people took typhus in order that the survivors should be less susceptible to that disease? It is not calling on a wider stretch of the imagination in this case than in the case of alcohol.

“There is the question of immunity against disease; and under certain conditions a patient who has suffered from small-pox or scarlet fever becomes insusceptible to a reattack of this disease. This also is put forward as an argument in favor of immunizing a whole people against the action of alcohol. It is said that if you take this poisonous substance as a producer of drunkenness, if you inoculate or feed a whole people with this alcohol, you will, in time, produce a people insusceptible to the taste for alcohol. The two things are essentially different. It is true that by the use of alcohol you can obtain a partial immunity—a comparative insusceptibility to the action of the alcohol in the tissues as manifested in the individual. We all know that a man may be more readily affected at first by alcohol, than after he has taken it for any lengthened period; his tissues carry on the work more easily in the presence of alcohol after they have become accustomed to the presence of that substance. But has that anything to do with the question of the ‘taste’ for alcohol, of the necessity for alcohol and the power of the person to withstand the temptations of alcohol in future generations? I hold that however we may acclimatize a person—and it can only be done in some degree—to the action of alcohol and allow the other tissues to act in the same way but comparatively easily in the presence of alcohol—we cannot say that that person will not succumb to the temptations with any greater difficulty than a person who has not been treated with alcohol at all. It is said that although we do not get any immunization against the action of alcohol in immediate generations, that we may get it in those more remote. I say distinctly—my case is that I think no proof has been brought forward to show that we do get it in this way or that we may get, in times to come, any immunity against ‘drunkenness.’ Is it worth while—on supposition that the doctrine of future immunity is true—is it worth while sacrificing the work of the next few generations for the very problem-

atical good which would accrue in generations to come? Those who believe in evolution say that we must have ultimately the survival of the fittest; but is it worth while going out of our way—to lose the many advantages—in order that we may ultimately have a people who are insusceptible to drunkenness? How much are we going to sacrifice in the process? Take the case of vaccination. I have seen in my own experience the immense benefits that accrue to a vaccinated person against small-pox, and it is an enormous advantage to have people vaccinated so long as there is the danger of small-pox occurring in our midst, but I do not maintain that vaccination has no disadvantages. No vaccinated person can be exactly the same in the future, for the virus has produced changes in the tissues of the person which we know, from experience, protect him from small-pox; but we should not recommend vaccination if there were no danger from small-pox. Many of us hold that alcohol should not be put on that footing. Is it worth while sacrificing an enormous number of our population by drunkenness for the sake of any future problematic advantages? It is said that such nations as the North American Indians, suffer severely from drunkenness, and that they are therefore drunken because they have never taken any alcohol in historical times; and it is said that they are drunken because they are not immunized against the action of alcohol. I think that is a very bad analogy. But assuming that the facts are as stated, we have a brave people brought up under certain physical conditions, taught to look upon stoicism and self-control as the great virtue of life. When you give them alcohol, you take away the prime virtue which they possess, by removing from them the power of 'inhibition' at a single blow, and they readily become drunkards. They have nothing else to hold on by; their active life is taken away from them; their power of inhibition is removed; they have nothing in public opinion; no thought of consequence. They like the pleasant feeling that alcohol undoubtedly gives, and the result is that these people inevitably become a ready prey to the action of alcohol. I hold that it has nothing to do, in the ordinary sense of the term, with heredity; but that it is only a question of conditions.

"I hold that direct transmission of the taste for alcohol never occurs. I maintain that the conditions occur—that certain nervous degenerations—altered, weakened inhibitory powers—certain nervous diseases of various kinds are transmitted from generation to generation. But they do not always take the same form, not always on the same line, and not always arriving at the same consequence; but the result as regards alcohol is inevitably the same. We have, therefore—and my mind is made up—no direct transmission of the 'taste' for alcohol from parent to children. Let us take tuberculosis: how long have we believed in the transmission of tuberculosis? We have now come to know that the tubercle bacillus is never transmitted; it may pass from the mother to the child during the time that the child is attached to the mother, but how frequently does heredity play the part in the transmission of tuberculosis? I believe that in respect of this disease direct transmission does not take place. There are certain weaknesses of tissues which are developed in the children of weakly parents which make the tissues much more susceptible to the action of the tubercle bacillus, but direct cases of tuberculosis are never transmitted, but only that condition in which the patient is more suscepti-

ble to the action of the exciting cause of the disease. Predisposing causes may be transmitted, but the exciting cause, never.

"There is to be formed a committee to take up this question of heredity. I therefore leave the subject with less regret, as I believe that the matter will be thoroughly threshed out and we shall all have an opportunity of saying what we believe on this matter."

Dr. Morton moved a resolution for the appointment of a committee to investigate the subject of heredity in relation to alcohol. He pointed out that during recent years professional opinion had undergone considerable change in the views held regarding the subject of the transmission of disease from one generation to another; that this was due to the gradually increasing knowledge as to the causes of diseases which had hitherto been looked upon as hereditary only. In regard to alcohol, it had long been his view that the taint for alcohol could be transmitted, and he recalled a paper which he had read on the subject before the Society for the Study of Inebriety, which was published in the *Journal of the Society*, November, 1894. Since then, further consideration had led him to considerably modify the views he then expressed, and in discussing the subject with Dr. Archdall Reid, who had read a paper some months ago, he found that although he could not agree entirely with Dr. Reid's views, there was certain common ground upon which they could meet and discuss the problems connected with the transmission of alcoholic characters. He thought, however, that the subject was of such importance that it should be looked into by a committee of this society, inasmuch as the question occupied a considerable place in the temperance movement. He thought that parents would be more careful of excessive drunkenness if they were convinced that their indulgence was inimicable to their offspring. The question was, therefore, of vast importance, and a fit one to be investigated by a committee of professional men.

Dr. W. L. Brown was then called upon by the Chairman (Professor Sims Woodhead) to second the resolution, in doing which he congratulated the meeting upon having had the statement of Professor Woodhead, that "in the ordinary sense of the term, alcohol had nothing to do with heredity, but that it was only a question of conditions." The statement was important, and the work of the committee in finding and examining the proofs would be still more important. The inheritance of acquired characters did not depend upon induction, but upon fact and observation. There certainly were instances in which structural changes had been transmitted from parent to offspring; congenital malformations appeared to run in families, such as an extra digit or a digit less on a particular limb, and these he thought might be put into the category of acquired characters. Color blindness and deaf-mutism had been transmitted through many generations and apparently demonstrated that structural variations in the brain were transmitted. The question for the consideration of this committee was to find out, first of all, what structural variations, if any, took place in the disease of drunkenness, and whether these were of a nature which could be transmitted to the offspring, for it was quite manifest that certain acquired characters connected with drunkenness were not transmitted. The Bardolphian nose—the ball of wild-fire—as Shakespeare termed it, was certainly not transmitted to the drunkard's offspring; neither was

the double vision, the staggering gait, nor the lesions of the skin which so frequently became apparent after prolonged drunkenness. No one has ever heard of a case in which these acquired personal characters had been transmitted. Was it possible that the characters taken on by the brain—the internal characters—could be transmitted? Such a view had long been largely accepted and earnestly believed in by those who favored the temperance propaganda, probably for the reasons which had been mentioned by Dr. Morton, rather than upon the foundation of scientific fact; but the profession seems to have slackened in their belief regarding this question, and finally have given it "pause." It might be that such an investigation as was proposed might throw light on the cause or causes of the disease of drunkenness, and explain whether it had a physical basis, such as brain injury, disease of brain tissue, some diathetic condition of the cranial blood vessels, or arose from some obscure psychological condition.

Dr. Brown mentioned that on the question of the transmission of the so-called alcoholic diathesis no observations, so far as he knew, had been made on animals; and he was not sure whether any had been made on plants. He recalled that Dr. Ridge, whom he was glad to see present, had exhibited at Bournemouth pictures of some geraniums which he had nurtured with measured doses of alcohol, and these plants certainly acquired the characters of decrepitude and stuntedness. It would be interesting to learn from Dr. Ridge whether he had carried out any observations on these geraniums, to ascertain whether cuttings of the alcoholized plants transmitted their acquired characters.

Dr. Brown said that no subject could be more worthy of painstaking research, and few could be found more thickly beset with all the difficulties which every scientific inquiry had to face.

The following medical gentlemen were elected members of the committee: Dr. Morton, Dr. Archdall Reid, Dr. Lang-Gordon, Professor Sims Woodhead, Dr. W. L. Brown, Surgeon-Major Poole, M. D., Dr. Hazel, Dr. Kesteven, Dr. Raynor, Dr. Heywood Smith, Dr. Aydon Smith (Hon. Sec.).

Rubber Gloves or Gauntlets.—J. E. Summers, Jr., urges the use of sterilized rubber gloves, under these conditions: (1) In obstetric practice; (2) in operating on all forms of septic cases; (3) in the examination and treatment of all forms of septic, infectious diseases; (4) in operating on clean cases, soon after operations on infected ones; (5) in abdominal sections following vaginal operations on the same individual; (6) in the examination of fresh wounds after recent examinations of or operations on dirty cases; (7) in all forms of rectal surgery. They also are a protection to the physician and surgeon against infection.

DIAGNOSIS OF FEVERS.¹

By D. W. PRENTISS, A. M., M. D., of Washington, D. C.

SUDDEN high fever preceded by a chill may be due to many different causes, as scarlet fever, pneumonia, tonsilitis, congestive chill of malaria, pyæmia, and septicæmia, gastro-intestinal catarrh of children.

Congestive chill in the vicinity of Washington, D. C., is seldom malarial, but almost always due to pyæmic or septic poisoning. What was called "ephemeral fever" in the older classifications is from an evanescent cause—most frequently of gastro-intestinal origin, from acute gastro-intestinal catarrh, or from eating certain articles of food which produce ptomain poisoning, and is most common under the age of seven years.

Types of fever, of which the following are the most prominent:—Intermittent: malaria (the type); suppurative (septic); tuberculosis, early stage (septic); catheterization (septic); nervous shock; syphilis; hepatic abscesses (suppurative). Remittent (a remittent form occurs in the above diseases); tuberculosis, later stages; infantile remittent is typhoid. Continued fevers: typhoid, exanthemata, croupous pneumonia, etc.

These latter are self-limited—that is, their natural history is to terminate about a certain time, if not interfered with. Typhoid from the twenty-first to the twenty-eighth; scarlet fever and measles run a regular course and terminate spontaneously. Croupous pneumonia especially is likely to give credit to the doctor or his last remedy, on account of its sudden termination about the seventh day.

From this natural termination of the disease spontaneously also has arisen, in past years, the immense number of "specifics" for its treatment. When the crisis occurs the remedies used, whatever they be, get the credit of the cure.

A knowledge of the natural history of diseases is of great importance in relation to treatment as well as to diagnosis. The tendency in most of these diseases is to recovery, if they can be placed under favorable conditions, and the axiom in obstetrics that "meddlesome midwifery is bad" applies equally in fever. Meddlesome medication is bad. Rest in bed, a well-ventilated apartment, proper diet, and good nursing are the most valued methods of treatment. Special symptoms are to be appropriately treated as they occur. An example of meddlesome medication is seen in the use of the so-called antipyretics in typhoid fever. I refer to such as antipyrin, phenacetin, and acetanilid. Many lives have been sacrificed on the antipyretic altar since they came into use.

It is a great temptation to bring the temperature down from 104.5° or 105° in a few hours to below 100°, but danger and frequently death follow. To see, as I have seen, a lovely girl just blooming into womanhood die in the second week of a favorable case of typhoid from heart failure is an experience never to be forgotten.

Possibly a certain degree of fever in germ diseases may be conservative, as protecting the system against the germs or their effects. It has been found that the *diplococcus lanceolatus* of pneumonia loses vitality as

¹ Abstracted from article read before the Medical Society of District of Columbia, and published complete in *Philadelphia Medical Journal*.

the temperature increases, and ceases to grow at 102.5° . In croupous pneumonia, for instance, temperatures up to 104° are to be considered as normal—as much so as dyspnoea and rusty sputa. The view now generally accepted is that fevers up to this point are the normal reaction of the organism to the invading pneumococci; that these “normal fevers” are even of service is well shown in a paper published by Douglass Powell, in which he demonstrates that pneumococci grow to perfection at 35° to 37° C. (95° to 98.6° F.), and not at all from 40° to 42° C. (104° to 107.6° F.). (*Medical News*, January 7, 1899. Manges.)

On the other hand, we know the deleterious effects of continued *high* temperature upon the patient in producing exhaustion and emaciation. The integrity of the tissues may in this manner be so interfered with as to in itself cause death.

To combat unduly high temperature, the best and safest method is by hydrotherapy; bathing, sponging, and free drinking of water and the use of the ice-bag; but not by drug antipyretics.

In speaking of “meddlesome medication” I do not wish to be understood as underrating the judicious administration of drugs. But one should always know *why* a medicine is given. Regulation of the bowels is imperative. In a few diseases we have specific remedies, as in malaria and syphilis; but specific medicines are woefully few. The tendency of the ultra-scientific school in medicine—shall I say of the “new doctor?”—at the present day is to sneer at drugs as out of date in treatment. With this teaching I do not sympathize.

The old doctor, like old wine, improves with age. At least, he should do so if he keeps up with the times. Who can read Ian Maclaren’s delineation of a country doctor without feeling that Dr. Maclure was a blessing to his community? Even as to the much-abused administration of calomel by the doctor of the old school—who shall say that it may not have accomplished much good? He did not know he was giving the best of all intestinal antiseptics, but it was nevertheless true.

We are discussing here the *diagnosis* of fevers; but we must not lose sight of the fact that diagnosis is of no practical value to the patient unless it leads to appropriate treatment. The best physician is he who makes diagnosis lead to that end. It is small satisfaction to the friends of the patient to brilliantly confirm a difficult diagnosis at the autopsy, if methods of treatment have been neglected that might have saved the life.

Lastly, as to the treatment of chronic cases of doubtful diagnosis. Three causes especially among others should not be lost sight of, namely: syphilis, chronic lead poisoning, and chronic mercury poisoning. But above all, *syphilis*.

Dr. Janeway, in a paper before the Association of American Physicians, in May, 1898, reports several cases of chronic disease with fever cured by antisiphilitic remedies after futile treatment by other eminent physicians. The case which furnishes the text for this paper is another example.

I have no doubt that many similar examples can be recalled by practitioners everywhere. There is a familiar axiom by a well-known author that says, “When in doubt play trumps”—that is, in chronic diseases of doubtful diagnosis, give antisiphilitic treatment, pushed to the extreme, if necessary.

A CASE OF CESOPHAGISMUS OF GOUTY ORIGIN.

By HEINRICH STERN, PH. D., M. D., New York,

Professor of the Diseases of Metabolism, College of Physicians and Surgeons, St. Louis;
Visiting Physician New York Red Cross Hospital.

ON SEPTEMBER 18, 1895, I was consulted by Reginald S., an Englishman, æt. forty-seven, unmarried, merchant, highly educated and non-luetic, for a gastric difficulty.

HISTORY.—Father had gout; family history otherwise good. Patient leads the life of a clubman, irregular in habits, indulged in late, large and fancy suppers, a heavy drinker of wines, but a moderate smoker of tobacco. Had been repeatedly affected by gouty paroxysms of a mild character, for which he had sought medical aid.

STATUS PRÆSENS.—*Subjective Symptoms*: Patient complains of precordial pains and attacks of indigestion; of tenderness in the epigastric region; of a general feeling of *malaise* and of anxiety. In the way of prodromata he refers to his gouty diathesis and the accompanying mild algæsia.

GENERAL EXAMINATION.—Appearance, healthy; temperament, neurotic; body weight, 107.5 kilogrammes; height, 1 meter 78 centimeters; nutrition, fair; temperature, normal; pulse, somewhat accelerated.

SPECIAL EXAMINATION.—Respiratory organs, normal; heart, normal; stomach, greatly inflated with gases; liver, somewhat enlarged; intestines, meteorism; spleen, normal; kidneys, normal.

EXAMINATION OF URINE FOR THE FOLLOWING TWENTY-FOUR HOURS.—Amount voided, 1840 c.c.; reaction, acid; specific gravity, 1019.5; carbamid, 33.12 gm.; uric acid, 0.9 (ratio of uric acid to carbamid, 1 : 37); calcium oxalate, in excess; glucose, none; albumin, none; abnormal form-elements, none.

The symptoms, complex, did not admit of a definite diagnosis of the case. Patient was treated for chronic gastric catarrh and was restricted to a milk diet. Cold daily douche-baths, followed by long-continued and thorough friction with a Turkish bath towel, were ordered, as was his going to bed at nine P. M., and his remaining there for at least ten hours.

In the way of medicines calomel was ordered to be taken half hourly for two hours in the morning for three or four days; besides this, a mixture containing sodium bicarbonate and fluid extract hydrastis canadensis was prescribed, and the patient advised to take it after every second glass of milk.

The patient was seen again on October 11th. By this time all subjective symptoms had disappeared; the body weight had remained stationary; languor, asthenia, and anxiety had entirely vanished. He continued to be well until November 2d, when he had again indulged in his irregularities and eccentricities. A recurrence of all the former subjective symptoms took place, with a possible aggravation of one or the other.¹

Beginning with this period I had the patient under constant observation—that is, I saw him at least once every day. As long as he heeded medical advice he felt himself free of distress; as soon, however, as he pursued his

former mode of life, which occasionally happened, he would again complain. For a time almost daily examinations of his urine were made, without ever finding pathologic constituents or the presence in excess of any of the xanthin bodies; the only abnormal feature being a mild oxaluria.

In the night of December 8th patient had an attack of syncope. When I reached his bedside, I found him in the reactive stage—tremulating, and in a profuse perspiration. Pulse, full and frequent. Temperature, 37.2°C . Respiration accelerated.

Nocturnal attacks of syncope became quite frequent after this with the result that patient grew worrisome and restless.

Early in 1896 dysphagic symptoms made their appearance. At first the spasm was unaccompanied by pain; soon, however, odyphagia was present. Simultaneously with the *oesophagismus* violent and persistent spasms of the diaphragm occurred.

On March 16, 1896, patient was stricken with spasmodic torticollis, and complained of severe diaphragmodynia. He was in a condition of excessive nervousness, with palpitation of the heart, slightly raised temperature, and increased arterial tension.

Urinary secretion was somewhat diminished; color, Vogel's scale, No. 4, transparent; specific gravity, 1028; acidity, 0.51° . Carbamid, xanthin bodies, and phosphates in excess; oxaluria; traces of serum-albumin; no form elements.

The acute symptoms subsided after five days. Meanwhile the spasmodic stricture of the gullet, though still persisting, was somewhat relieved. In May, 1896, the dysphagia became more pronounced and deglutition very troublesome. The ingested nutriment was usually detained in the *oesophagus* for about five minutes before it passed into the stomach. Ofttimes the food was ejected when the spasmodic condition was prolonged. Liquids, however, passed without difficulty.

By repeated explorations of the *oesophagus* with the bougie the seat of the spasmodic contraction was located near the cardiac extremity. At this period the sounds passed without difficulty.

The patient became somewhat emaciated at about this time for lack of sufficient nourishment.

The treatment directed toward ameliorating the hysteric condition proved useless in overcoming the *oesophageal* spasticity. Such agents as the bromides, valerianates, *cannabis indica*, arsenic, camphor, camphoric acid, belladonna, some salts of zinc, and *nux vomica*, which were successfully employed until June, 1897, effected a more or less complete disappearance of the hysteric condition.

Hydrotherapy, massage, and galvanism were utilized locally without producing any lasting improvement in the *oesophagismus*. Occasionally the *oesophageal* bougie was introduced, more so for exploratory than for remedial purposes.

In June, 1897, patient went to the country, and after his return to the city in the following September sought relief somewhere else. I had completely lost sight of him until he returned to me for treatment on January 4, 1899.

He stated then that he had successively tried a number of physicians, and that, in spite of his abstinence from alcoholics and his regular mode

of living, his œsophageal affection was not only not ameliorated, but had gradually developed to such a degree that he could partake of only fluid nutriment, but very often only with the aid of the stomach tube.

His last physician, an authority of national reputation, under whose care he had been for the past nine or ten months, had given him the advice to pass the œsophageal sound every morning before breakfast, and to employ the stomach tube whenever occasion required it. Dreading odynphagia and the rejection of the ingested food, the patient was only too willing to heed this advice.

He further stated that he was still afflicted with occasional minor attacks of a gouty character, and that he experienced a violent paroxysm from time to time in the region of the heart and all around the lower portion of the thorax. These paroxysms called forth great anxiety and weakness of the patient, who had undergone no special treatment for the same, as the attacks came always unexpectedly and were generally of too short a duration to require medical aid; but he had taken morphine already after some of the paroxysms and had found its action beneficial.

STATUS PRÆSENS, JANUARY 4, 1899.—*Objective Symptoms:* Appearance: broken down, prematurely aged; skin and mucous membrane: pallor eximius; nutrition: emaciated, somewhat cachectic; body weight: 65 kg.; temperature: 37.2° C. (axilla); radial pulse: 56 per minute, weak and shallow; heart: hypertrophied, systolic murmur over aorta (stenosis of aorta); œsophagus: diverticulum of considerable caliber about 10 cm. above stenosis, the latter near cardiac extremity and of a purely spasmodic character. Organic disease positively excluded. Sound detained in stenotic area for about thirty seconds, after which relaxation ensued suddenly, permitting passage of instrument. Withdrawing the latter it was again arrested for nearly ten seconds at the stenotic portion.

Two hundred c.c. of warm water quickly drank were retained for twelve minutes, after which they were suddenly regurgitated. One hundred and sixty-four c.c. of the water were caught; some water had escaped before patient reached the basin provided for the reception of the eructuated matter. The 164 c.c. plus the lost portion must have corresponded quite closely to the amount ingested; at any rate, only a minute quantity could possibly have traversed the stenotic point. The water, during its retention in the gullet, in all probability was lodged in the diverticulum.

Considerable amounts of mucus were contained in the ejected water, but the absence of odor, acid reaction, and hydrochloric acid clearly evinced that it could not have been vomited from the stomach.

Respiratory organs: bronchi normal; lungs, lower boundaries higher than normal; volume diminished; respiration frequent and very shallow; inspiration short and jerky; expiration very short, instantaneous, ceasing abruptly.

Diaphragm, apparently high in the thorax and not moving freely; pain in upper part of epigastrium and in corresponding region on back upon pressure and manipulation.

Liver, enlarged; other organs apparently normal; urine (voided in my presence), ardor urinæ; specific gravity, 1029; acidity, 0.62°; excessive oxaluria; traces of albumin; otherwise normal.

Discarding the assumption of an idiopathic origin of the affection, I started to treat the stricture as a symptomatic disease.

Potassium iodide in one-gram doses, to be repeated three times daily, was prescribed for the underlying condition. Besides this, systematic faradization of the diaphragmatic circle was instituted; a weak secondary faradic current (30 mm.) was applied for fifteen minutes twice daily during the first week of treatment. During the second week a stronger current (60 mm.) was employed for half an hour once every day; and during the third and fourth weeks the induced electric current of 100 mm. was given for a full hour every morning at ten o'clock, before patient had taken breakfast.

After a week's administration of potassium iodide, I decided to give a powerful antispasmodic. Adonidin in 0.005 gm. doses was ordered to be taken four times daily. On January 20th the dose of this drug was increased to 0.01 gm. four times daily.

The patient was put on an absolute milk diet and the feeding by the stomach tube was prohibited. He was advised to take small amounts of milk at a time, and though, at first, it caused him great effort and pain to effect the passage of a few drops of the aliment, he, after a few endeavors, seemed to prefer again this mode of alimentation to the stomach tube feeding.

On January 10th patient had, contrary to my orders, eaten some oatmeal for breakfast which, he thought, was first lodged in the pouch from whence it was partially regurgitated, the rest passing into the stomach.

Patient grew bolder gradually, and on January 15th, a Sunday, he partook of a course dinner without my knowledge and consent. He paid for his indulgence, as intestinal pains and diarrhoea were its consequence. Meanwhile, he had gained considerably in body weight, which amounted on January 18th to 70.5 kg.

January 20th. The strict milk regimen was discontinued and mixed diet, in moderate quantities, was allowed; alcoholics were excluded. The aliments, in small portions, passed the stenotic point without much difficulty and were well tolerated.

January 22d. The nutriment was ingested without the slightest effort at deglutition.

January 25th. Patient vomited early in the morning and complained of pain in the back. When questioned, he admitted having drank a variety of alcoholic beverages the previous night.

January 27th. Patient feels comfortable; weight, 74 kg.; no effort at deglutition; no regurgitation.

January 30th improvement continues; weight, 74.75 kg.; stenosis definitely ameliorated.

February 4th patient looks very well, and a general systemic improvement is plainly noticeable; weight, 75.5 kg.; left for Florida.

COMMENTS.

The association of oesophagismus with spasms of the diaphragm is not an uncommon occurrence. In this instance both phenomena con-

curred, however, to such an extent that it was apparent that neither depended upon the other, but that they were the manifestations of one common cause.

Convulsive dysphagia is considered of hysteric origin by many clinicians. Though hysteric manifestations were well pronounced in this instance, they seemingly stood in no causative relationship to the œsophagismus, as they disappeared under proper treatment, while the spastic stricture of the gullet was not in the least influenced by the anti-hysteric medication.

From the symptom-complex as revealed on January 4, 1899, I concluded that the œsophagismus was deuteropathic, and only a single enunciation, only one of the symptoms, of a general gouty state. The paroxysms referred to by the patient were apparently nothing else but minor attacks of angina pectoris—that is, of gouty paroxysms of the diaphragmatic type. I further concluded that the diaphragm was considerably affected by the gouty dyscrasia on account of its apparent diminished mobility, its atony, and the pain which was called forth when pressing upon it.

The ultimate result justified the assumption that a gouty dyscrasia was the underlying cause of all the disturbances. The treatment, after the etiologic factor was determined, was necessarily a simple one. Potassium iodide I have found long ago a valuable remedy in that gouty condition characterized by an excessive oxaluria. Adonidin, in my experimental investigations, has proved the most energetic of the antispasmodics, and it is especially indicated in overcoming gout of the diaphragmatic type.

The induced current, finally, is the agency *par excellence* in effecting local stimulation and tonicity. In this instance it proved an invaluable adjuvant of the medicinal treatment.

One may feel tempted to ascribe the speedy cure of the patient to suggestive influences exerted upon a neurotic subject; and while there was undoubtedly a hysteric moment in this case, it certainly did not call forth the diaphragmatic gout and its concomitant phenomena. On the other hand, cannot the hysteric symptom be attributed to the metabolic disorder which we commonly call gout?

The case was considered as of idiopathic origin by all the other physicians under whose care the patient had been. To prove its deuteropathy I related its history from as far back as 1895.

Many affections which we have been in the habit of designating as idiopathic are not primary diseases at all. They are, on the contrary, symptomatic of an underlying systemic disturbance, which to single out for treatment is irrational and only permissible in those instances where we are not enabled to determine or to remove the original etiologic factor.

56 East 76th Street.

LONDON CORRESPONDENCE.

Perhaps it would interest your readers to know that the first-fruits of the awakening of the scientific mind in England has manifested itself by the despatch of a search expedition to West Africa to study the genesis of malaria and other tropical fevers. This has been done with the sanction and assistance of the Colonial Office, and Mr. Chamberlain, the colonial secretary, has expressed his satisfaction and appreciation of the energy and public spirit shown by the Committee of the Liverpool School of Tropical Diseases in this matter, and he has instructed the authorities at Sierra Leone to give every facility to the work of the expedition. The Colonial Office also sent, for the use of the school, valuable medical and sanitary reports of various tropical colonies. I had hoped to be able to send you this month some drawings of mosquitoes and other insects, which, in this country, are said to be the agents for propagating some of these malarial diseases. The British Museum directors have been invited to send with the expedition Mr. E. E. Austen, the dipterologist of the museum, but he has offered to pay his own expenses. The theories which I alluded to in my last letter of Major Ross, will probably receive an important corroboration from the results of this expedition to Sierra Leone. From that district Major Ross' expedition will afterward make investigation at Accra. The investigators will have the scientific benefit of the wet season, when tropical malaria and fever are especially prevalent. The expedition will comprise Major Ronald Ross, lecturer to the Liverpool School, who has been employed on a similar mission by the India Office; Mr. H. E. Annet, demonstrator to the Liverpool School; Mr. E. E. Austen, dipterologist to the British Museum; Dr. S. Van Neck, official delegate of the Belgian government to the Liverpool School of Tropical Diseases. The British Medical Association recently voted £100 toward the expenses of the expedition. Major Ross' duties will recall him to the school in October, but it is expected that volunteers will then continue the work he initiates.

I intended to allude to summer diarrhœa in my last communication. As yet, though the temperature has been for a few days rather high, we have no statistical indication of any serious outbreak of infantile diarrhœa in England or, indeed, in the United Kingdom; the month of August, however, for many years past has shown a terrible mortality increase, and this doubtless will be maintained in the present year. In 1896, out of 126,541 total deaths, one-tenth of that number died from infantile diarrhœa. During the last quarter of 1897, out of 139,022 total deaths, 21,639 children died from diarrhœa in England and Wales. In London for 1897, 3510 infants were registered as having died from infantile diarrhœa during the months of July, August, and September, as many as 640 having died in the first week of August.

Yellow Fever—Geographical Distribution.—As is to be anticipated, this country has but little personal acquaintance with yellow fever, and

physicians have to look for their information from experiments made in the districts where yellow fever is most common. The establishment during the last few weeks, on the banks of the Thames, of a new hospital which is to be devoted entirely to the study of tropical diseases, will, no doubt, under the care of the senior physician and expert for tropical diseases, Dr. Patrick Manson, do something to extend our knowledge of these diseases in the near future—more than has been the privilege of medical men in this country in the past. We are glad to observe a spirit of research on this subject awakening in this country. We have to record that Dr. Izett Anderson, in his work, "Yellow Fever in the West Indies," differs from other authors as to the geographical distribution of the disease. He says it generally occurs in the West Indies, the tropical regions of Africa, and North and South America, but it has been met with in Europe and elsewhere. With regard to etiology, Dr. Anderson says that there is nothing definitely settled with regard to its bacteriology; "it is allowable to conjecture that the disease may be due to combined atmosphere and telluric conditions;" and he hazards the suggestion that blankets and clothes may convey contagion by absorbing and retaining "a section of the climate of a yellow fever district." Dr. Anderson believes that the disease can be cut short by the administration of calomel and quinine in doses of about a scruple each. He further recommends the administration of carbolic acid and bicarbonate of potash in effervescence with fresh lime juice throughout the whole course of the disease.

The Mexican Government.—It appears that the government of Mexico has roused itself so far in relation to the treatment of yellow fever as to order an extensive system of sewers and adopting the latest methods of sanitation at Vera Cruz and other places, with the object of endeavoring to stamp out the scourge at these points.

The Plague.—A highly important "Discourse on Preventive Inoculation," which was delivered at the Royal Society, by M. Haffkine, on the 8th inst., is well calculated to instruct those persons, if such there be, who entertain a belief that the problems presented by sanitary science are simple in their character and calculated to be easily apprehended by the scientifically untaught. M. Haffkine has now been engaged for some years in India, where he is bacteriological research officer to the government in the investigation of matters connected with the prevention, and in some instances with the cure, of communicable diseases; and his work in the direction of inoculations against cholera and against plague has already been justified by a large measure of success. He makes it clear, nevertheless, that bacteriologists are, as yet, only on the threshold of complete knowledge of the subject, and that much rigorous experimentation will be necessary before the laws governing microbic infection will admit of definite formulation. As regards the so-called "pathogenetic" bacteria, there are two chief factors to be considered—the microbes themselves, and the secretions which are the results of their life; while as regards the control of disease, it is necessary to draw a wide distinction between proceedings which diminish the ordinary liability to receive infection, and proceedings which promote recovery when disease has been

accidentally produced. When a microbic fever is established in a living body, both the microbes and their products are necessarily present in the system, and it is difficult or impossible to refer symptoms to one or to the other; but by means of artificial cultures the microbes and their products can be separated, and the effects of each can be tested by experiment. Even then much caution is required before the work of the laboratory can be safely applied in practice; because it is found that very different results are yielded by different animals. As an example, M. Haffkine states that the monkey is highly susceptible to the plague virus, and may develop a fatal attack after a prick from an infected needle. The rabbit and the guinea-pig are also susceptible; but the horse contracts no fatal disease even after being infected with large doses of the living virus. But, if a plague culture be heated sufficiently to kill the contained microbes, leaving only the toxins which they have formed, the conditions are reversed—the monkey and the guinea-pig scarcely responding to an injection, while the horse responds by a brisk attack of fever and by a swelling at the seat of inoculation, which, if the dose be at all considerable, may lead to complete mortification of tissue. Analogous differences are found with regard to the period of immunity from a given disease which may be afforded to animals by inoculation. In some, the inoculation leaves no lasting effect; in others, a temporary immunity is created, which disappears after a few days. In some, increased susceptibility to subsequent infection appears to be the result; and in others, again, the very same virus will afford a great and long-continuing immunity. As a general statement, M. Haffkine believes that in the case of every disease, and with regard to every species of animal, a form of treatment may be found which will produce immunity in that particular case; but the same method of treatment may or may not be applicable to another species of animal, or to another disease affecting the same animal. To a want of clear knowledge on this point he attributes some, at least, of the differences of conclusion which have been arrived at by different experimenters.

In the latter part of M. Haffkine's discourse he called attention to a point which deserves to be carefully considered by all amateur preachers of sanitary reform. He was discussing the relative merits of inoculation in preventing the spread of disease, and he pointed out that microbial maladies might be divided into two great classes: those in which the microbe is parasitic—that is to say, is dependent for its life and activity upon the surroundings which it finds in the organism which it infests—and those in which it is saprophytic, or capable of living and multiplying, independently of these surroundings, in any of the forms of organic refuse which are to be found abundantly in the neighborhood of dwellings or of places frequented by living animals. The diseases produced by microbes of the first class are in the proper sense of the word contagious—that is to say, they are only liable to be conveyed from the sufferer to other persons by actual contact; while those produced by microbes of the second class are in the proper sense of the word infectious, and are liable to be carried away from the persons of the sick by various channels and media, as by air, by water, or by clothing. The practical outcome of the difference is that in diseases of the second class, in which the patient is only a single and relatively limited source of danger, his isolation and the destruction

of his belongings in no way interfere with the vast cultivations of infectious material which may be in progress independently of him, so that measures for circumscribing the prevalence of an epidemic by isolating or destroying the foci of infection are unlikely to succeed in this category of cases. The proceedings which are effectual in merely contagious affections will be easily eluded by saprophytic microbes; and the necessity of individual personal protection by means of some form of preventive treatment will soon be urgently felt and acknowledged. M. Haffkine thinks the principle here laid down is entirely applicable to typhoid or enteric fever, depending, as it does, upon a saprophytic microbe of great tenacity of life, which although in some localities it appears to be mainly conveyed through the agency of water, yet in others, and especially in the East, probably gains access to the body through various channels, many of which may up to the present time have escaped recognition.

At a meeting of the Council of University College, London, held recently, Mr. E. A. Minchin, M. A., Fellow of Merton College, Oxford, was elected to the Jodrell Professorship of Zoölogy, in succession to Professor W. F. R. Weldon.

British Medical Association.—The event of the month was the meeting of the British Medical Association at Portsmouth. The United States was well represented by Drs. Osler, Tyson, Laplace, De Schweinitz, Reed, Jackson, and many others, representing all of the larger American cities. The report of the council indicated a membership exceeding 17,000. In my communication for September I will give a *resume* of the meeting for your readers.

W. L. B.

A certain doctor had occasion, when only a beginner in the medical profession, to attend a trial as a witness. The opposing counsel, in cross-examining the young doctor, made several sarcastic remarks, doubting the ability of so young a man to understand his business. The result proved the young physician to be as quick-witted as the learned counsel. "Do you know the symptoms of concussion of the brain?" "I do," replied the doctor. "Well," continued the attorney, "suppose my learned friend, Mr. Baging, and myself were to bang our heads together, should we get concussion of the brain?" "Your learned friend, Mr. Baging, might," said the doctor.—*Literature*.

Antitoxin in Horses.—(By Astros: *LePeogie's Medical*, October 22, 1898.)—This author agrees with Zarkowski that the blood of horses naturally possesses antitoxic powers. He thinks that the antitoxic power resides in the white blood corpuscles; that the internal organic tissue has no antitoxic power, and that the sciatic nerve contains more antitoxine than the central nerve.

R. B. H. GRADWOHL, M. D.

NEW YORK LETTER.

Milk Depots.—The Nathan Strauss milk depots have recently been opened for the season at various points in the down-town tenement districts, on the recreation piers, and in a number of the public parks. Pasteurized milk and raw milk freed from impurities by the centrifugal process are sold by the glass (one-half pint for one cent), and pure or modified pasteurized milk furnished in bottles for infants at nominal rates, or free to mothers too poor to pay. There can be little doubt that the more or less general use of sterilized milk has been an important factor in the reduction of infant mortality in New York during the past few years, and it seems probable that the high death-rate among children under five years of age which has of late been noted in Brooklyn, and noted in my last letter, may be due, in part at least, to the fact that the less frequent employment of sterilized milk there than in the boroughs of Manhattan and the Bronx.

Serum Treatment of Yellow Fever.—Health Officer Doty has been treating a case of yellow fever at Swinburne Island by means of the new serum. Dr. Doty says that the case was well marked and a pronounced type of the disease. The serum was used subcutaneously, the first injection being given about five hours after the arrival of the patient at the hospital, and consisted of about twenty-five cubic centimeters. Three hours later he received a second injection of the same dose, and five hours after this a third injection of fifty cubic centimeters was administered. No other treatment was given, and the patient was discharged as cured three weeks after his arrival at the hospital. Dr. Doty says that from a scientific standpoint one case cannot prove the value or worthlessness of the serum, but he hopes soon to hear from Dr. Baker, who is experimenting with this serum at Vera Cruz. The object of the experiments at quarantine, carried on during the past two years, is to test the value of the claim made by Prof. Sanarelli, who states that he has discovered the germ of yellow fever and has prevented and cured the disease by the use of the serum. Reports from Brazil and New Orleans, where experiments have been made with this serum, state that it is neither preventative nor curative, and that, in fact, none of the important and dangerous symptoms have been in any way mitigated or prevented by its administration. Health Officer Doty has sent a quantity of the serum, together with apparatus for its use, to Bahia, Brazil, where its efficacy will be tested.

A Crematory on Barren Island.—Dr. William T. Jenkins has gone to Europe for the purpose of investigating the crematory at Yarmouth, England, with a view of building a similar one on Barren Island for the destruction of garbage and dead animals.

Poliomyelitis Epidemic in Poughkeepsie.—This disease has been epidemic in this country before, but not to so great extent as in the present

instance. There was an epidemic in New York City in 1872, when upwards of 1000 cases were reported; other large cities were more or less affected. The disease is infectious but not contagious. It always occurs most frequently during July and August, and an operating cause is heat and humidity. It is rarely fatal, and the majority of cases come under five years of age. Out of fifty cases reported in Poughkeepsie only one fatality is noted. Dr. Chapin, of the Post-Graduate Hospital, is endeavoring, if possible, to find the germ and determine the cause of the disease which is at present a mystery. Additional cases of infantile paralysis have been reported more recently. The oldest child so far reported is eight years of age. Some suggest that the present epidemic is la grippe in a new form.

Vital Statistics.—The Health Department has made its report for the first quarter of the year 1899. Out of a total of 171 diphtheria cases, 110 were successfully treated. Antitoxin was used in all these cases. The death-rate for the entire city was 18.84. The department estimates the city's population at 3,550,053; 1,402,723 pounds of milk, fruit, foods, meat and fish were condemned, and only \$245.00 in fines imposed. Dead animals removed numbered 16,005. In addition, the inspector seized 987 barrels of fish, 270 of poultry and 608 of offal, besides 4 quarters of horse meat, 176 of veal, 68 of beef, 8 of mutton, 8 boxes of meat and 5 of game.

Medicine—the Soft Snap.—An inquirer writes to one of our daily papers to know if he cannot become a physician by “studying in the evening after work.” He was informed that the study of medicine not only takes all of a man's time for years, but makes him wish that the week had eight days of twenty-five hours each. We are glad there is one editor kind enough to disillusion the laity of their idea that it is a very easy matter to become a practitioner of medicine. It is time that people become acquainted with the fact that it takes more to make a physician than the ability to feel a pulse and collect a fee.

Expenditure for Charities.—A committee appointed for the purpose by the Board of Charities recommends the following measures: Limiting present appropriations to such classes of agencies as children's institutions and hospitals; discontinuing appropriations to medical dispensaries; abolishing appropriations for fresh-air work carried on by private societies; continuing appropriations to industrial schools only until they are assimilated with the public school system; that appropriations to founding asylums and to children's institutions be upon a per diem and per capita basis, and that inmates be accepted by the Department of Charities in advance of payment by the city; that the aggregate amount contributed to hospitals be apportioned on a per capita and per diem basis for the patients, and to be divided proportionately to such service among all incorporated and well-managed institutions; no payment to be made for patients cared for in endowed beds. The report urges the necessity of regarding the present exorbitant amount as the maximum and of effecting a very considerable decrease each succeeding year.

Diphtheria at the State Hospital for the Insane at Willard.—On July 5th diphtheria was reported as epidemic at the Hospital for the Insane at Willard, New York. There are now seventeen cases at the institution. The disease is of a mild type and attacks only the younger persons. It is being kept under control by the free use of antitoxin, and no deaths have thus far been reported.

Suture of the Heart.—A case is reported from Binghamton, New York, of a stab-wound of the heart penetrating nearly through the walls of the left ventricle, in which Dr. F. L. Forker, of that place, after administering a saline intravenous injection to offset the loss of blood that had occurred, sutured the injured organ. The patient survived for forty hours, when death resulted from septic pericarditis.

The Study of Cancer at Buffalo, New York.—The investigations into the etiology of cancer at the above named place is carried on at the expense of the State, and is attracting attention abroad as well as in this country. It is intimated that the investigations point strongly toward confirmation of the germ theory of the disease. Dr. A. L. E. Duffy has been sent by the British Cancer Society of London to investigate the work done at Buffalo and to collect data bearing on the spread of the disease in this country.

School Reform for Girls.—Dr. W. Gill Wylie, chairman of the Medical Board of Education, has begun an agitation for the reform of the present school system as it applies to girls. He considers that girls between the ages of eleven and sixteen are required to do too much work. Girls are now admitted to the Normal School at fifteen instead of fourteen, as formerly. Dr. Wylie says the danger resulting from the amount of study required at present is not to the life of the girl, but, coming as it does in the formative period of a girl's life, the evil effects are bound to be manifest in her children.

A New Floating Hospital.—A floating hospital belonging to St. John's Guild, called the "Helen C. Juilliard," made its initial trip on July 5th. It has accommodations for 1900 people and bath-rooms, in which forty-one persons can take salt-water spray baths simultaneously. Patients needing more than a day's outing can be cared for at the hospital of St. John's Guild at New Dorp, L. I.

Tenement-House Reform.—The tenement-house committee of the Charity Organization have prepared a series of ordinances and presented them to the Municipal Building Commission. It was said that New York's tenements are a disgrace to the city and the State, that dangerous and unsanitary conditions are allowed to prevail and grow worse year by year. One of the ordinances is aimed at the dark, narrow, unventilated air-shaft, and provides that shafts shall be not less than six feet wide in any part and have not less than one hundred and fifty feet in superficial area. Other provisions are that no tenement shall be more than six stories high. Living rooms shall have at least six hundred cubic feet of air-space. There

shall be at least one bath-room for every twenty families. The walls of the building shall be carried three and one-half feet above the roof, so that the roof may be used as a playground.

The Health Department in New Quarters.—The various departments of the Board of Health have been removed to Fifty-fifth street and Sixth avenue. The department of contagious diseases will have a department down-town at Elm street.

Typhoid Fever Epidemic.—There is an epidemic of typhoid fever at Flushing, in the Borough of Queens. During July there were about thirty cases with a mortality of twenty per cent. It was thought at first that the water supply was at fault, but repeated examinations of the water have failed to show the presence of the typhoid bacilli. It is now suspected that the outbreak may have been occasioned by impure milk. The Board of Health will make an investigation.

Rabies in New York State.—Commissioner Weiting, of the State Agricultural Department, reports that the worst outbreak of rabies known of in years is raging in Erie county, where men, dogs, horses, and cows are suffering from the disease. Four of the victims are now under the Pasteur treatment in New York.

Quarantine and Yellow Fever.—In a recent issue of the *North American Review*, Dr. A. H. Doty, health officer of the port of New York, states that quarantine, without a wholesale remedy of local sanitary defects and deficiencies, cannot alone be depended on to prevent the introduction or extension of yellow fever, for after it is removed the locality is just as susceptible to the disease as ever. He lays stress on the fact that no other place in the world offers such a menace to the public health of America as the Cuban sea-ports, notably Havana, where may be seen what he terms "the degradation of sanitary science." Dr. Doty finally alludes to a need of a National Health Bureau or Department which shall not only have general supervision over quarantine matters, but shall also have jurisdiction over sanitary matters in the interior, which is even more important. This feeling has found expression in a bill introduced in the United States Senate last winter by the Hon. John C. Spooner. The value of such a department is self-evident, and it is stated that there is reason to believe that during next session of Congress the bill referred to will again receive serious and proper consideration.

MEDICAL NOTES.

The Pathology of Pyrexia.—(By W. Hale White, M. D., F. R. C. P., *The Clinical Journal*, June 21, 1899.) A resume of the physiology of animal heat is first discussed by the author, showing that the production of heat in the body and the loss of heat from the skin, when in equilibrium, is responsible for the normal bodily temperature of 98.6° F. If either heat production is increased or heat loss is diminished, we have a rise in the bodily temperature. Heat is lost by evaporation and radiation from the surface of the body. The loss by evaporation depends upon the temperature of the skin—that is, the surface temperature. The higher the temperature of the skin, the more rapid the loss. White uses a thermometer with a flat bulb for taking the temperature of the skin. He estimates the amount of perspiration lost by means of a glass box, with an absolutely air-tight lid, in the bottom of which calcium chloride is fused. The box with its lid on is weighed, the lid taken off and the box instantly inverted on the skin, and kept in position with a slight pressure on some part of the body for a specified time—on the abdomen, near the umbilicus—and then is taken off and the lid instantly put on; it is again weighed, and the increase in weight shows the amount of perspiration that has been excreted from that skin area, for it has been absorbed by the calcium chloride. In cases of typhoid fever the author proved by this means that heat loss is greatly diminished. This explains how typhoid fever patients can hang on for weeks with a high continuous fever; if it were a case of increased heat production for that length of time, the patient's condition would be very poor on account of the severe strain necessarily put upon the animal economy. This also explains why it is that the best method for lowering the temperature in typhoid fever is by means of the cold bath; *i. e.*, by increasing the heat loss. In pneumonia we have a different condition: heat production is increased and heat loss remains about normal. This is, however, a short specific disease and not so much strain is put upon the animal economy.

The same condition holds true in erysipelas. In pyrexia in suppurative processes, heat loss is diminished and so internal temperature is increased.

It has been pointed out by numerous investigators that damage to the corpus striatum will cause pyrexia. In two cases of hemorrhage into the corpus striatum, with an increased perspiration on the paralyzed sides, the temperature still rose above normal, showing that the pyrexia was due to increased heat production. Researches were made in regard to the supposed increase in CO₂ gas exhaled during pyrexia, with the result that no increase is to be noted.

Further figures given show that the administration of farinaceous foods is rational in fever, for thereby the breaking down of fats and proteids is arrested.

Appendicitis.—Dr. A. J. Ochsner, of Chicago, Illinois, in a paper read before the Surgical Section of the American Medical Association, in Colum-

bus, Ohio, June 6, 1899, points out the frequency with which appendicitis is followed by a secondary inflammation of the right ovary and tube, which the author has observed in a large number of cases. He quoted one hundred and three cases in which the appendix had been removed for inflammatory disease during the year 1898 at Augustana Hospital.

There were ninety patients suffering primarily from appendicitis, and thirteen in which the primary disease was either in the adnexa, or both the appendix and tubes were so extensively implicated that it was impossible to determine the primary seat of the inflammation.

Of the ninety patients suffering primarily from appendicitis, thirty-nine were males and fifty-one females. Of the latter, thirty-six suffered from appendicitis alone, and fifteen suffered from appendicitis with a secondary involvement of the right ovary and tube.

Eleven patients were under fifteen years of age, and of these five were boys and six were girls. All the children suffered from acute attacks, with either gangrenous appendices or perforations.

Judging from this year's experience, as well as from the author's former observations, it is certain that the matter of secondary infection, especially of the right ovary and tube, has been very much underestimated.

The following conclusions seem to be borne out by this experience:

First.—Appendicitis frequently causes inflammatory disease of the right ovary and tube, and occasionally the left side is also involved.

Second.—This condition is especially likely to give rise to chronic invalidism because of the periodic exacerbation, resulting from the congestion due to menstruation.

Third.—In operating for the relief of pyosalpinx, the condition of the appendix should always be determined.

Fourth.—In operating for chronic or recurrent appendicitis in patients suffering also from dysmenorrhœa, the right ovary and tube should be examined.

Fifth.—If the pain is limited to the right side in severe dysmenorrhœa, the appendix is frequently primarily involved.

Sixth.—In catarrhal appendicitis, in which there is a fecal concretion in the appendix, or in appendicitis obliterans, the pain is frequently most severe during menstruation.

Seventh.—In patients who have recovered from gangrenous appendicitis there is frequently no further disturbance from the condition of the appendix, except the digestive disturbance due to adhesions, while the secondary disturbance in the ovary and fallopian tube may continue to be very great.

Eighth.—In young girls suffering from dysmenorrhœa, the history should be followed very carefully, in order to determine the presence of a previous attack of appendicitis.

Ninth.—The fact that many of these cases are mistaken for salpingitis accounts for the theory that appendicitis is more common in men than in women.

The Employment of Antistreptococcic Serum in the Treatment of Small-Pox.—While in many, if not all, infectious processes serious conse-

quences and even death may result from the primary disorder, there is abundant clinical and pathological evidence that these occurrences are favored and sometimes actually brought about through the agency of secondary infections, and it has been thought that if the latter could be averted or mitigated a great end would be attained. Observations in support of this view were made by Dr. W. J. Lindsay, resident medical officer at the Middlesbrough Isolation Hospital, in the course of an epidemic of small-pox in the English town and district of the same name, during the earlier months of the year 1898 (*British Medical Journal*, May 13, 1899). It was found that death occurred most frequently during a period of from three to five or seven days after the pustules began to dry and be absorbed, and it was concluded that the purulent change was due to pyogenic organisms entering the vesicle from without, and to the absorption into the circulation of the toxic products to which the untoward results were in some degree due. It was found that by rigid antiseptic treatment suppuration in the vesicles could be prevented, but the procedure was difficult of application and the results were not entirely certain. Resort was, therefore, had to antistreptococcic serum, injections of which at intervals of from twelve to twenty-four hours were made aseptically into the subcutaneous tissues of the abdominal wall, either just before or coincident with pustulation. Six cases in which the lesions were confluent and the prognosis was grave were selected for the treatment, with the result that the critical period following the absorption of the pustules was shortened, the intensity of the toxæmia lessened, and the tendency to cardiac failure and collapse diminished. The pulse throughout, though fast, was regular, and the strength of the beat was well maintained. Convalescence set in earlier and progressed rapidly. In two of the cases death resulted; in the remainder no abscess formed.—*Medical Record*.

Cerebro-Spinal Meningitis.—Dr. Osler's admirable presentation of this subject in his recent Cavendish lecture (published in the last number of the *Journal*) accentuates, if it does not solve, some of the more urgent problems in this disease. The main questions, from Dr. Osler's standpoint, are pathologic ones. Unanimity seems to have been almost reached among bacteriologists, and the opinion prevails that the organism in the epidemic cases is the diplococcus intracellularis of Weichselbaum; the one partially dissenting voice being that of Netter, who does not deny this particular bacillus, but claims that it is merely a degenerate form of the pneumococcus. Surely, the modern doctrine of "degeneration" can go no further than this! Osler evidently does not assent to Netter's view; but is, nevertheless, strongly inclined to give great prominence to the rôle of the pneumococcus in causing a certain form of purulent meningitis. This pneumococcic meningitis may be either primary or secondary, the latter form following lobar pneumonia or focal suppuration in the nose or ears. The chief problem now awaiting solution is to determine the identity of the infecting agent in the sporadic cases of cerebro-spinal meningitis. A great variety of bacilli and cocci have been found in purulent meningitis (both epidemic and sporadic), such as the diplococcus of Weichselbaum, the pneumococcus, the streptococcus, the staphylococcus, the colon bacillus, the anthrax bacillus, the tubercle bacillus, and even some others of

less known significance. We are usually assured confidently by bacteriologists that some of these (as the streptococcus, staphylococcus, and colon bacillus) are merely complicating organisms, and not the essential ones. To the mind of the non-bacteriologist, however, the reason for such confidence is not always clear, and the subject remains involved in considerable confusion. As the ground is cleared it may yet be found that sporadic cases are not all caused by one and the same organism; and such, we suspect, will yet be the solution. Clinicians and pathologists in the meantime should bear in mind the extreme importance of searching for any focus of primary infection, such as a circumscribed pneumonia, an endocarditis, or a suppurative bone disease, especially in the nose or ears. Sporadic cases occur not infrequently in this city, and, if properly observed, might help to clear up an interesting question in pathology.

Dr. Osler refers, with cautious approval, to surgical intervention in cases of cerebro-spinal meningitis—a subject which we criticised rather freely in this journal a few weeks since. His own observation of two cases can scarcely convince him of the utility of laminectomy, for both patients died. In one of these patients extensive changes were found in the *cord* as well as in the membranes—a fact which goes to justify our criticism that the disease process in purulent leptomeningitis is not confined to the subarachnoid sac, but may and does invade the medullary substance in both brain and cord; in other words, may be subpial; and in no case (even if purely subarachnoidal) could a thorough drainage *probably* be secured. Still, we will not condemn the operation without further trial.—*Philadelphia Medical Journal*.

Case of Gall-Stones Removed Without Operation.—Edward Speidel, M. D., Louisville, Kentucky, reports the following:

The following case, presenting possibly the severest form of this trouble, was relieved entirely by the method outlined below.

On the 17th of September, 1898, the patient, a lady fifty-five years of age, consulted me with the following history:

She had been sick for the past five years with colicky pains in the abdomen, increasing in severity in the last two years, and for the three months preceding the day upon which she called at my office they occurred regularly two or three times a week. The attacks were preceded by a chill, and ended with fever and sweats. An attack often lasted for twenty-four hours; did not end suddenly, and was followed by intense jaundice and pigmentation of the conjunctivæ. The pains were felt in the right hypochondriac region, and the patient always noticed a swelling there during an attack.

The patient improved gradually under treatment; the colics were less frequent and of shorter duration, and on the 25th of October the urine showed a sp. gr. of 1010, with only a trace of bile. The feces were dark colored. By the 12th of November the patient had not suffered with colic for two weeks, but was now troubled with intense itching of the skin upon retiring at night. This was diagnosed as due to a deposit of bile pigment in the tissues. On December 3d the patient had a severe attack of the colic, beginning early in the morning and lasting until 6 p. m. At that time she had an intense pain and desire to go to stool, and then passed the

gall-stones that are exhibited in connection with this case. The patient collected the 132 shown in the bottle, and claims that quite a number escaped from the bowl of the water-closet before she realized what had occurred. A few small stones were passed in the succeeding days, but since the 7th of December none have been noticed; the patient has been entirely free from colics.

Treatment was begun with a calomel purge, followed by a saline, and the patient put upon a simple but nutritious diet. She was instructed to drink three large glasses of buttermilk daily, and to increase the quantity as she became accustomed to it. The patient not relishing the other things allowed her, soon consumed a quart of buttermilk daily. The patient drank a glass of hot water at bed-time and upon arising and with each dose of medicine ordered. In addition to this, she was instructed to take a hot bath at bed-time twice a week, remaining in the hot water for fifteen minutes. Three times a week at bed-time a high rectal enema of normal saline solution, temperature 110° to 120° , was to be used.

For the attacks of colic she was given a mixture containing two and one-half grains each of antipyrine and phenocoll mur. to the dose, such a dose to be taken every half hour with hot water until relieved, the hot bath and rectal injection being used at the time also. In the interval the patient was put upon ten grains of salicylate of strontium threetimes daily. During the last two months the medication consisted of increasing doses of *tr. chionanthus virg.*, the prescription being varied by the addition at times of one of the tonic bitters, as *nux vomica* and *columbo*, again by the addition of arsenite of copper, and in the last month by the administration of nitro-muriatic acid with the *chionanthus*. During the last month, on account of the intense itching, the hot baths were used every night.

A Day's Consumption.—In the course of a day a person breathes 2600 gallons of air, weighing about thirty-four pounds, about six times the average amount of drink and food consumed. There seems to be nothing equal to man as a consumer, except the spider, whose appetite is so enormous that he defies all human competition. A scientist has recently calculated that if a spider was built proportionately to the human, he would eat at daybreak approximately a small alligator, by 7 A. M. a lamb, by 9 A. M. a young camelopard, by 1 P. M. a sheep, and would finish up with a lark pie in which there were one hundred and twenty birds.

THERAPEUTICS.

The Action of Guaiacol Carbonate in Tuberculosis.—From a close study of the action of guaiacol carbonate in tuberculosis, Eschle found that it is practically an intestinal antiseptic, and so helps assimilation in cases of tubercular infection, thereby fortifying the system against the inroads of that dread disease. But a small quantity of the guaiacol taken into the intestinal tract is absorbed; all that is not split up in the process of disinfection is passed out of the canal unchanged. The writer found that, at the room temperature, guaiacol carbonate is not acted upon by either saliva or gastric juice, but that it could be separated into its component parts by the addition of macerated pancreatic tissue to the mixture. This breaking up of the guaiacol carbonate into its component parts is inhibited by the process of putrefaction.

The Relation Between Nutrition and Tuberculosis.—(By Freund, *Die Tuberculose*.)—In phthisical patients we have a state of poor nutrition, dependent not so much upon a deficiency in quantity or quality of food ingested by the patients, but more upon the relatively poor assimilative conditions that prevail, due to the infection of the intestinal tract or to intestinal derangements superinduced by the disease processes in the lungs. Much of the food that is taken into the intestinal canal by these patients is lost because of the untoward action of the micro-organisms of putrefaction. With the aid of such intestinal disinfectants and antiseptics as creosotal, guaiacol carbonate, etc., this process of putrefaction is arrested, and thus the organism receives all the nutriment intended for its use.

Quinine in Malaria.—(By G. A. Fackler, M. D., *Jour. A. M. A.*, July 29, 1899.)—From an observation of twenty cases of true malaria treated by hypodermatic administration of quinine, the writer is forced to the belief that it should never be administered in that manner except in cases where stomach and bowels reject it. In three cases quinine hypodermatically was successful; in ten cases it was not successful. In ten cases quinine by the mouth was successful after quinine hypodermatically administered had failed. In only three out of thirteen cases in which the remedy was administered subcutaneously was an abeyance of symptoms secured. This experience is certainly at variance with that of the army surgeons of the South. The explanation that the writer offers as to the failure of hypodermatic administration of the drug is that, in consequence of the mechanical injury done to the tissues at the site of injection, their absorptive powers are lessened and no results follow. As an index of this, he points out the pain and hardness in the parts following the injection.

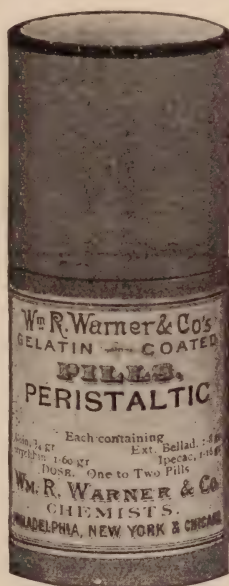
Quinin in Malaria.—(By Geo. Dock, M. D., *Jour. Am. Med. Ass.*, July 29, 1899.)—This author thinks that an average dose of quinin

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should be about fifteen grains daily, but that in the more obstinate forms of the estivo-autumnal type, twenty grains should be administered. As to the time of giving the drug, he concludes that in the tertian or quartan intermittent forms, quinin should be given in the decline of the paroxysm or not later than at the end of the apyrexia. In the ordinary single infection, when the dose is given in the decline there will not be another paroxysm. As for the use of quinin in malarial hemoglobinuria and hematuria, Dock thinks that we should continue to use it cautiously, in spite of the fact that some authorities claim that its use is attended with danger, since they say that the condition is due to a reaction between the malarial parasites and the quinin.

The Usefulness of Potassium Iodide in Cerebro-Spinal Meningitis.—(By H. A. Moody, *Merck's Archives*, July 1899.)—This writer gives his experience with different types of epidemic and sporadic cerebro-spinal fever and narrates the histories of some cases in which potassium iodide seemed to be especially efficacious. The explanation for the good effects of this drug in this disease, as given by him, is that it acts as an antidote to the toxins secreted by the pathogenic organisms, or is unfavorable to their development. In most of the cases in which this treatment was instituted, morphine was also given; so that there arises the question as to whether or not the good effects ascribed to the usage of iodide of potassium are not due to the morphine. It has been given almost as a dictum by men eminent in authority that morphine given in plentiful doses is the most effective agent that we have in the treatment of epidemic cerebro-spinal meningitis. However, the writer makes the point that "all who received the iodide treatment escaped death." This does not prove the infallibility of iodide of potassium in the treatment of the disease, but nevertheless furnishes a good plea for its administration in future epidemics of the disease.

Septicæmic Infection Treated with Antistreptococcus Serum.—Dr. J. Mitchel Bruce (*British Medical Journal*, July 8th) reports one case of septic endocarditis in the treatment of which the use of the antistreptococcus serum was entirely successful. The conclusions drawn from the one case are: (1) That antistreptococcus serum may succeed in septicæmia after ordinary means have failed; (2) that it may act with great rapidity, all the phenomena disappearing in the course of forty-eight hours. He also reported a case of septicæmia of the cerebro-spinal fever type, from which case he drew the following interesting conclusions: (1) As before, that in some cases of a septic kind antistreptococcus serum is successful; (2) as before, that the effect may be extremely rapid; (3) that success may be obtained after other measures failed; (4) that success may be attained with one serum after another serum has failed. He advised that one should not be content with one serum if it proved unsuccessful.



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A Text-Book of Pharmacology and Therapeutics, or the Action of Drugs in Health and Disease. For the use of students and practitioners of medicine. By ARTHUR R. CUSHNY, M. A., M. D., Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan Medical Department, Ann Arbor. In one handsome octavo volume of 728 pages, with forty-seven engravings. Cloth, \$3.75, *net* Lea Brothers & Co., Philadelphia and New York. 1899.

This valuable book, like most other medical works from the faculty of the University of Michigan, is destined to take high rank, both in the library of the busy physician and the study-room of the medical student.

Clinical Diagnosis. By DR. RUDOLF V. JAKSCH, Professor of Special Pathology and Therapeutics, and Director of the Medical Clinic in the German University of Prague. Specially revised and enlarged by the author from the third English edition of the translation by JAMES CAGNEY, M. A., M. D. Fourth edition, with numerous illustrations (partly in colors). London: Charles Griffin and Company, Limited. J. B. Lippincott Co. 1899. Philadelphia.

This edition of Prof. von Jaksch's well-known work is especially valuable, as it has been revised by the author himself, owing to the death of the former reviser, Dr. Cagney. The chapters upon the blood and gastric juice have been rewritten and enlarged to suit the recent advances in that department. The work is a valuable one both for the general practitioner and for the advanced student in clinical medicine and physiological chemistry. The chapter on the analysis of urine is exhaustive and contains much that is ordinarily omitted in the current works on that subject. In addition to the chapters already alluded to, another chapter has been added upon bacteriological methods which, while not a treatise on that subject, is well worth reading. The book is well worth careful perusal, and should become part of every wide-awake physician's library.

Laboratory Work in Bacteriology. By FREDERICK G. NOVY, Sc. D., M. D., Junior Professor of Hygiene and Physiological Chemistry in the University of Michigan. Second edition, revised and enlarged, with frontispiece and seventy-six illustrations. Ann Arbor: George Wahr, Publisher. 1899.

This work is undoubtedly one of the best of its kind, and should serve as a monument of merit, both to its author and to the general American medical world, for it is good testimony of what excellent work

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is being done in this country in the line of bacteriological methods and researches. Aside from the many clever devices used by the author and mentioned in this work, his descriptions of the life-history of bacteria, their chemistry and environment are valuable to both student and teacher, for he has succinctly reviewed all the latest literature on the subject, and has combined with it original ideas of his own which are well worthy of perusal by all medical men. It is, indeed, a pleasure to pass favorably upon such a work, and to recommend it to all who intend to do work in this direction.

BOOKS ANNOUNCED FOR PUBLICATION EARLY IN THE FALL OF 1899
BY W. B. SAUNDERS, PHILADELPHIA.

The International Text-Book of Surgery. In two volumes. By American and British authors. Edited by J. COLLINS WARREN, M. D., LL. D., Professor of Surgery, Harvard Medical School, Boston; Surgeon to the Massachusetts General Hospital; and A. PEARCE GOULD, M. S., F. R. C. S., England, Lecturer on Practical Surgery and Teacher of Operative Surgery, Middlesex Hospital Medical School; Surgeon to the Middlesex Hospital, London, England. Vol I. Handsome octavo volume of about 950 pages, with over 400 beautiful illustrations in the text, and nine lithographic plates.

Heisler's Embryology. A Text-Book of Embryology. By JOHN C. HEISLER, M. D., Professor of Anatomy in the Medico-Chirurgical College, Philadelphia. 12mo volume of about 325 pages, handsomely illustrated.

Kyle on the Nose and Throat. Diseases of the Nose and Throat. By D. BRADEN KYLE, M. D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia; Consulting Laryngologist, Rhinologist, and Otologist, St. Agnes' Hospital. Octavo volume of about 630 pages, with over 150 illustrations and six lithographic plates.

Pryor—Pelvic Inflammations. The Treatment of Pelvic Inflammations through the Vagina. By W. R. PRYOR, M. D., Professor of Gynecology in the New York Polyclinic. 12mo volume of about 250 pages, handsomely illustrated.

Abbott on Transmissible Diseases. The Hygiene of Transmissible Diseases: Their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. ABBOTT, M. D., Professor of Hygiene in the University of Pennsylvania; Director of the Laboratory of Hygiene. Octavo volume of about 325 pages, containing a number of charts and maps, and numerous illustrations.

Jackson—Diseases of the Eye. A Manual of Diseases of the Eye. By EDWARD JACKSON, A. M., M. D., late Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. 12mo volume of over 500 pages, with about 175 beautiful illustrations from drawings by the author.

NEW REMEDIES.

Euquinine as a Substitute for Quinine.—(By William Summerskill, M. R. C. S., L. R. C. P. London.)—I recently had brought to my notice a substitute for quinine—euquinine—which claimed to be almost tasteless, and did not produce cinchonism, excepting in large doses.

Euquinine, the ethyl-ether of quinine-carbonic acid, is a white crystalline powder, scarcely soluble in water, but readily so in alcohol, ether, and chloroform. It possesses but very little taste; and I found that patients who were unable to tolerate quinine took euquinine readily.

The following few cases, out of a number of others, may be of interest, showing as they do the satisfactory results obtained with euquinine:

CASE 1.—Mrs. H., aged thirty, a strong-looking young woman, called here on January 29, 1899, at eleven in the morning, complaining of intense headache, with giddiness, pains in the back and limbs, great weakness and prostration, with shivering. Her temperature at the time was 103.6° F., so I ordered her home to bed at once. On calling in the afternoon I found the temperature raised to 105° F., with rapid breathing. I at once ordered euquinine, five grains every three hours. Next morning the temperature was reduced to 103.6° F., but there was pneumonic dullness of the whole of the right base. The temperature continued to diminish until on the third day it was down to 100° F. The patient being comfortable, and the temperature being almost normal, the dose was now reduced to two and a half grains every three hours, when the temperature rose to 103° F.; the larger dose was again administered, when the temperature fell, and continued to do so until the eighth day, when it was normal, and remained so; the patient making an excellent recovery. During the progress of the case the patient complained of only one symptom of cinchonism, and that was slight deafness. This was undoubtedly a case of influenza, complicated with basal pneumonia, and the intense headache appeared to be greatly relieved by the administration of euquinine. The rise of temperature after the dose had been diminished, and the marked decrease of temperature after the original dose had been again returned to, seem to undoubtedly substantiate the antipyretic properties claimed for this remedy.

CASE 2.—Amy P., aged three years, was taken ill on February 26, 1899, with the usual symptoms of measles, and when I was called in the rash was fully out; and as the patient had been put to bed opposite to a door, she had developed acute capillary bronchitis, with respirations 27 per minute and a temperature of 102° F. She was removed to a less draughty position in the room, and ordered an ordinary cough mixture. The pulmonary conditions remained the same for a week, but the patient gradually got weaker, and diarrhoea with most offensive motions gradually set in. The patient then appeared extremely ill, and astringents were administered to check the diarrhoea, and although opium had been given throughout, the looseness and offensiveness of the motions still continued. It then occurred to me that euquinine ought to be beneficial, acting both as an intestinal disinfectant and an antipyretic. I therefore ordered two

and a half grains every four hours, and in two days good results became apparent. The motions gradually became less frequent and less offensive, the temperature fell, and the patient's general condition began to improve; the moist râles in the chest also became less numerous, and she gradually made a complete recovery, a result, in my opinion, greatly due to the action of euquinine.

CASE 3.—A. G., a school-boy, aged thirteen years, returned home on February 20, 1899, complaining of feeling ill, with severe headache and shivering. He was put to bed, and I was sent for about two hours afterwards, and found the following conditions: The patient was having a rigor, temperature 103.5° F., respirations 30 per minute, pulse 120, tongue dry and brown. On examination of the chest, fine crepitation existed over the base of the right lung. As this was evidently an attack of croupous pneumonia, I at once put the patient on euquinine, five grains every four hours, and ordered him to be kept warm in bed, with a light diet. Next morning I found the temperature was reduced to 100° F., although there was consolidation of the right base. The patient continued with the euquinine for a week, the temperature upon no occasion rising above 100° F., and at the end of that time it became normal. The patient was then given Parrish's food, and speedily regained his normal strength.

In none of the cases treated by me with euquinine have I noticed any marked symptoms of cinchonism or any gastric disturbances.

Hagee's Cordial of Cod-Liver Oil Compound.—(By Jos. R. Clausen, A. M., M. D.)—I have used Hagee's cordial of cod-liver oil compound in my practice for some time past, and unhesitatingly pronounce it among the very best of tonics, restructives and digestives within the reach of the general practitioner. I cannot recall a case where I have prescribed it when the effects resulting were not immediate and satisfactory. I have yet to find a stomach that would not retain it, and where it has not assisted in the retention and digestion of other nutritives.

I have used it in advanced stages of consumption with the best results, and in other affections of the air passages and lungs, and can trace absolute cures to its use alone. I have prescribed it in connection with other remedies in the treatment of rheumatism with the most gratifying results, and have found it a safe reliance in all cases of nervous prostration and general debility.

I recall one case in which the results following its use were little short of miraculous. The patient was a man of thirty-five years of age, and when I was called in his case presented all conditions of incipient consumption. Through disease, overwork and neglect of himself his system had been completely shattered. He was reduced to almost a skeleton, was troubled with a cough, had hectic flushes, and his digestive organs were badly impaired. After taking four bottles of the compound the cough left him, his appetite returned, he began to gain strength and to take on flesh. He is now attending to his business as usual, and assures me he never felt better.

While the effects in his case are the most remarkable I have to record, the results in several other cases are but little less astonishing, and I most heartily endorse Hagee's cordial of cod-liver oil compound.

Philadelphia, Pa.

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THE DIAGNOSTIC VALUE OF THE "WIDAL REACTION" IN TYPHOID FEVER.

The discovery of a clinical reaction which is pathognomonic of any disease is always hailed with the utmost satisfaction, for we know that however plain a symptom constantly present in any given disease may be, it nevertheless is apt to be missed in some exceptional cases, and in cases, too, where, perhaps, the making of the diagnosis rests on the presence or absence of that one given symptom. We know that the array of symptoms in typhoid fever is usually sufficient to make a positive diagnosis, yet there are many cases of this disease which are atypical and bear a wonderful likeness to the malarial infection of a continued type. Especially is this true in this region, where, as a result of the drift of population of the lower stratum of society from the South, notably Arkansas, Texas, etc., we meet with the most aggravated forms of malarial infection and with cases of malaria bearing a close resemblance to the ordinary attack of enteric fever. Confronted, then, with a case of supposed typhoid or malarial fever, with obscure clinical signs, with a poor personal history and a report of some months' residence in a southern climate, we are at a loss to make a diagnosis. We cannot rely on the diazo-reaction of the urine, for its utility as a diagnostic measure has been justly questioned because of its presence in diseases other than typhoid fever. This, however, is not true of the Widal sero-diagnostic test. It is pathognomonic of typhoid fever, and when absent we can safely say that the disease is not typhoid fever. In large cities, such as St. Louis and Chicago, the health departments make this test for practitioners who send the dried

drop of blood on glass slides to the laboratory of the department and are informed of the result on the following day. This is a great help to the practitioners, particularly in St. Louis, where we often meet with cases of typhoid fever which to all outward appearances are malarial in nature, and *vice versa*. The Widal test has come to stay.

INJECTIONS OF BRAIN EMULSION IN THE TREATMENT OF TRAUMATIC TETANUS.

Successful results have been obtained by the injection of brain emulsion in traumatic tetanus. The first case subjected to this treatment was one recorded by Krokiewicz, in the *Wiener klinische Wochenschrift*, 1898, No. 34. An emulsion of a calf's brain in normal salt solution was used in this case, with complete recovery inside of eleven days. Schramm, of Lemberg (*Przegląd lekarski*, 1899, No. 3), cured another case with 240 grains of a rabbit's brain. Krokiewicz, in the *Wochenschrift* for July 13th, has recorded the third successful case, the second of his own. The rabbit's brain was used in this case. This, then, bids fair to become a truly remarkable remedy in the treatment of this deadly disease. We know from personal experience that the treatment of traumatic tetanus with the tetanus antitoxin has been a failure in a number of instances, and the reports of others agree with us in that regard. It is a fact that the tetanus antitoxin, so called, has been used faithfully in a sufficient number of cases to pronounce it a poor remedial agent in this disease, if it is a remedial agent at all. Again a ray of hope dawned in therapeutic circles when Bacelli and others reported their successful cures of tetanus by means of subcutaneous injections of carbolic acid. This, too, failed to realize our hopes in the direction of curing the disease, for the observation of American medical men has not been in accord with that of Bacelli in the matter of carbolic acid medication for traumatic tetanus. Now, a third remedy is being introduced. Let us hope that the results obtained by Krokiewicz and Schramm will also be obtained by others. The treatment should be given a fair trial, at least, for in no other way can we judge of its efficacy or uselessness. We will be satisfied to accept it as a remedial agent if it can cure tetanus, even though an exact explanation of the *modus operandi* is not directly at hand.

A NEW METHOD OF DIAGNOSIS FOR YELLOW FEVER.

Dr. MacKowen, of New Orleans, advances a new means of diagnosis in yellow fever by an examination of the urine. The efficacy of the test depends upon the presence in the urine of yellow fever patients of the aromatic sulphates in combination with the pigments of urine, viz.: bile, from ravages of the disease in the livers of yellow fever patients; indican, from indoxyl-potassium-sulphate derived from the aromatic toxin, indol; urobilin. The author states that the presence and combination of these pigments in the urine of yellow fever patients differ in quantity from the pigments caused by other diseases resembling yellow fever. After several months' toil with yellow fever patients, MacKowen found that the following reaction could be relied upon in making the diagnosis of yellow fever from an examination of the urine. Pour into a test-tube four and a half

cubic centimeters of urine and a cubic centimeter and a half of sulphuric acid; shake well, then, after cooling the mixture by putting the lower part of the tube in cool water, add a cubic centimeter and a half of chloroform to the mixture in the tube; shake thoroughly, then put the tube in a standing position and allow the chloroform to settle to the bottom of the tube. The chloroform becomes a sediment in the bottom of the tube and assumes, within twenty-four hours, an opaque, dirty yellowish-white or an opaque, dirty yellowish-gray color. Above the chloroform rests a brownish fluid, and between chloroform sediment and this brownish liquid a pink or reddish streak forms. These colors become more pronounced with the age of the reaction. After some practice with the test, the writer says that the positive reaction can be recognized by the observer within an hour, if yellow fever be the disease which we are dealing with.

THE CRIMINAL APPEARANCE.

A recent article in the *Speaker* says: "It does not require the abilities of a Lombroso, in visiting a number of prisons, to detect certain family resemblances in the members of different classes of prisoners. Indeed, the first thing that strikes the casual visitor to a prison is usually the remarkable sameness in the general appearance of a number of criminals. The first offender, the victim of a sudden temptation, may be, and often of course is, an exception, though even in his case the close observer will generally be able to trace in his countenance the mark of Cain, nature's danger-signal warning his fellows of the weak spot in his character."

There is no doubt about the criminal appearance when criminals are seen in a prison. The ordinary student in criminology would have seen every mark of degeneration and the true criminal appearance in our Savior, had he seen him in a prison. The prisoner with cropped hair, clean-shaven face, and striped suit certainly always looks the criminal. Criminal surroundings, or rather suggestive surroundings, hold their suggestive glamor; but we maintain that the best students of physiognomy are unable to always tell a criminal from a casual view of the countenance. Lavater himself, when under test, made a signal failure, calling a good and honest character a criminal. Indeed, under favorable circumstances the reading of the criminal appearance is anything but an easy matter, for many appear saint-like who are veritable villains. The best readers of a face are those who study the least in a scientific way. The intuition of a child is far more true than that of an educated scientific student. The only perfect readers of faces live in books. The face is the world's great open book, the means which heaven yields to start all human knowledge. 'Tis doubly true that the face gives more knowledge in our life than any single source, for it is the study of knowledge for the babe and purveys every useful image. The face is as deep as the soul, and may be as plain as the sun, it yet remains the will's slave to act a mind's heart. The criminal appearance is far from being a fact outside of prison walls; and it is for this reason that criminals thrive as they do, for the truthful reading of the criminal appearance is yet an enigma.

A SYMPOSIUM OF NEUROSIS AND PERVERSION.

Never in the history of the world has there been presented to the alienist and psychologist such an array of psycho-pathological facts as are supplied by the evidence in the recent Dreyfus trial. The actors in this comedy-drama stand out in bold relief and present their characteristics in no uncertain manner, and their aptitude to perceive and comprehend plainly runs in the direction of perversion. Everything to them has lost its normal appearance; the contorted, twisted and perverted seems manifest in word and action. Their actions generally, particularly the generals of the army, present every evidence of degeneration. They show by their actions a moral obtundity, wayward and capricious to almost idiocy. Their instincts seem cruel; violent and convulsive passions, and not reason, are manifest in every movement. Like ego-maniacs, they appear to imagine that the entire world is centered in them, and that they alone are competent to see this affair in its true light. While they show to the world heterogeneous, disproportioned elements, contradictory qualities and defects, they seem to be endowed unusually in imagination, invention—all perverted in a manner utterly incomprehensible to a common-sense man. Like all degenerates, they lack completely in good judgment. They have a singularly obtunded sensibility, which is ever manifest where such moral obliquity exists. Their moral sense seems *nil*; their continuity or logical consecutiveness never goes in the direction of sense and justice; their intellectual efforts in this trial have been illogical and criminal. These generals may have superior mental qualities, but in this trial of Dreyfus they have shown that they are indeed supremely incapable of conducting themselves in a sensible and rational manner; and their course thus far has been one long contradiction of normality, showing themselves as being enamored with perversion and not with trust or honesty. Again, these generals show a lack of mental poise, an excessive emotional sensibility peculiar to degenerates, and an enfeeblement of psychic energy which reveals itself by a constant predominance of spontaneity over reflection and volition. Their inability to see things as they are; their instability, shown by constant change to a lower level, and their irresolution is shown by unreasoning change and blind prejudice. They are individuals who, with apparent full reason and judgment, in an almost unconscious manner indulge in errors of conduct and immoral inconsistencies. Brutish and immoral, they are seemingly pure pathological specimens of moral insanity. They have shown an amazing fecundity in lying, a remarkable and ready ease in perjury, and a faculty for forgery which can only come in the morally insane and the born criminal. God help any nation where as many generals as are involved in this Dreyfus case show such criminal and perverted elements. What sociological surroundings are engendered here! What a culture broth is shown for the further growth of criminals when the generals of an army are like these! Such a congress of criminal degenerates the world has never seen as is shown by these generals of the French army, for they have shown themselves dangerous to all reputation and honor; remarkable scoundrels in the use of dissimulation and calumny; vigorous, bold and unscrupulous in everything appertaining to villainy and immorality, falsehood, perjury, forgery and murder. In all

history there is no counterpart to this trial. Lunacy and hysteria certainly are plainly manifest in the actors now persecuting Dreyfus. We cannot help believing that any nation which can engender the elements and conditions which are at present manifest in France, must be in the category of a dying nation. With a death rate exceeding the birth rate, the history of France for the past five years shows the prevalence of monstrous moral obliquity, the lack of family ties, the absolute pursuit of defaming passions and desires, the increase of neurasthenia and hysteria, and the seeming lack of all manly and ennobling sentiment. The preponderance of the perpetration of all forms of crime certainly presents a spectacle never before seen in a mass of people so large. France is indeed in need of a savior. All signs point to her retrogression.

It is immaterial what are the causes and forces leading to this condition. The fact remains that they are present and powerfully active. This fact alone shows that a country which can create such a condition must have enshrined within a most monstrous, far-reaching, dangerous sociological factor which threatens the life and integrity of that nation.

IS THE DIPLOCOCCUS INTRACELLULARIS MENINGITIDIS THE ESSENTIAL ETIOLOGIC FACTOR IN THE PRODUCTION OF EPIDEMIC CEREBRO-SPINAL MENINGITIS?

Much has been written during the past decade upon the subject of epidemic cerebro-spinal meningitis and its probable etiology. While Weichselbaum, who, in 1887, isolated the diplococcus intracellularis from the cerebro-spinal fluid of a case of meningitis, did not claim this micro-organism to be the specific agent in epidemic cerebro-spinal meningitis, Jaeger, some years later, affirmed that it was, basing his conclusion on his investigations in an epidemic of spotted fever among the soldiers in the garrison at Stuttgart. Several epidemics have been noted since then, and studied both from a clinical and bacteriological standpoint. Barker and Flexner studied an epidemic at Lonaconing, Maryland, and concluded that the diplococcus intracellularis was the exciting agent, although they were not quite certain whether or not the micro-organism which they isolated was a form of the micrococcus lanceolatus. Councilmen Mallory and Wright published their study of the epidemic in Boston during the year 1897, and came to the conclusion that the diplococcus intracellularis was the etiologic micro-organism at fault both in this epidemic and in all others. Class, of Chicago, later published records of cases occurring in Chicago in which he succeeded in finding the diplococcus intracellularis in five cases—the only cases of the epidemic which he was able to study bacteriologically. Osler, in his recent Cavendish lecture on the "Etiology and Diagnosis of Cerebro-Spinal Fever," confirms the above results and judges that the diplococcus intracellularis is the specific micro-organism for that disease. The writer studied an epidemic of thirty-four cases of this disease in this city during the winter of 1898-9, and in thirty-three of these cases the diplococcus intracellularis was isolated. On the other hand, we have adverse opinions in this regard from Netter, who thinks that the pneumococcus can also provoke epidemics of this disease. A. Fraenkel hands down as his opinion that

the pneumococcus can cause epidemic cerebro-spinal meningitis as well as the meningococcus. In support of his view, he cites three cases which seem to him to be conclusive evidence that the diplococcus intracellularis is not a specific micro-organism for spotted fever. The first case was one of cerebro-spinal meningitis following a traumatism. Fraenkel explains this case by supposing that the meningococcus gained entrance into the cranial cavity from the upper respiratory tract as a consequence of the trauma. The second case was that of a young man who had marked cerebral symptoms in an attack of ambulatory typhoid fever, where, of course, no meningococci were found in the spinal fluid. The third case was in an old man with paralysis of all four extremities, supposedly due to syphilitic meningitis, because of the withdrawal of 20 mm. of fluid by lumbar puncture, where post-mortem examination established the fact that there was a communication between the ventricles of the brain and the sub-arachnoidal space of the cord. How a few uninteresting cases can establish the non-specificity of a micro-organism in the face of the excellent statistics already enumerated is inconceivable to the writer. It is but rational to take the evidence of the many cases of this disease recorded principally by men of this country in support of the specificity of the disease as against the views of men like Fraenkel, Stadelman *et al.*, who base their assertions on one or two irrelevant cases. G.

THE ETIOLOGY OF YELLOW FEVER—REPORT OF MARINE HOSPITAL COMMISSION OF MEDICAL OFFICERS.

Under date of November 8, 1897, Surgeon Eugene Wasdin and P. A. Surg. H. D. Geddings were detailed, by authority of the Treasury and the President, as a commission to investigate in Havana the nature of yellow fever. Their full report dated July 10, 1899, has been received, and is printed as a separate publication. The report embodies the work of the commission in fairly testing the claim of Professor Sanarelli, of Bologna, Italy, that the bacillus icteroides is the cause of yellow fever, and the conclusion is drawn that this famous scientist has isolated the true cause of the terrible scourge. This conclusion is based upon a careful bacteriologic study, in the well-equipped laboratory of the Marine Hospital Service in Havana, Cuba, of twenty-two cases of disease thought to be yellow fever by the native physicians in attendance. Of these cases all were seen during the progress of the disease, and in fourteen of them the commission concurred in the diagnosis.

Each case was the subject of careful bacteriologic study before and, if practicable, after death. This consisted in the abstraction of blood in sterile bulb tubes from the ear-tip under careful asepsis. This blood was then diluted in the bulbs with meat-peptone bouillon, and after an incubation of twenty-four hours the growth was transplanted to fresh tubes of bouillon from which, after twenty-four hours, Petri dishes were made in series. From these the organisms present in the blood were isolated in pure cultures and studied. After isolation each organism was subjected to the cultural examination on all media, by means of which those meeting the demands of Sanarelli for the organism he discovered were readily selected and their pathogenicity for animals established. The bacillus

icteroides was isolated in thirteen instances by the commission and once by an independent observer. From the living blood in twelve of the fourteen cases, abstracted not earlier than the third day of the disease, the organism was isolated, and in the two others it was obtained post-mortem. Cultures taken from bodies dead of other diseases failed to give the bacillus icteroides.

It was found by the commission that all the animals at their command—monkeys, guinea-pigs, mice, rats, dogs, cats, and rabbits—were quite susceptible to the artificial infections produced by inoculating them under the skin, intra-peritoneally or endo-venously. It was also found that other organisms, the bacillus X, Havelburg's bacillus, and the bacillus coli communis produced similar lesions and were equally pathogenic. The conclusions reached by the commission are as follows:

First.—That the micro-organism discovered by Professor Guiseppe Sanarelli, of the University of Bologna, Italy, and by him named "bacillus icteroides," is the cause of yellow fever.

Second.—That yellow fever is naturally infectious to certain animals, the degree varying with the species; and in some rodents local infection is very quickly followed by blood infection; and that, while in dogs and rabbits there is no evidence of this subsequent invasion of the blood, monkeys react to the infection the same as man.

Third.—That infection takes place by way of the respiratory tract, the primary localization in this tract giving rise to the earlier manifestations of the disease.

Fourth.—That in many cases of the disease, probably a majority, the primary infection or colonization in the lungs is followed by a "secondary infection," or a secondary colonization of this organism in the blood of the patient. This secondary infection may be complicated by the coinstantaneous passage of other organisms into the blood, or this complication may arise during the last hours of life.

Fifth.—That there is no evidence to support the theory of Professor Sanarelli that this disease is primarily a septicemia, inasmuch as cases do occur in which the bacillus icteroides cannot be found in the blood or organs in which it might be deposited therefrom.

Sixth.—There exists no causal relationship between the bacillus X of Sternberg and this highly infectious disease, and that the bacillus X is frequently found in the intestinal contents of normal animals and of man, as well as in the urine and in the bronchial secretion.

Seventh.—That, so far as your commission is aware, the bacillus icteroides has never been found in any body other than one infected with yellow fever, and that whatever may be the cultural similarities between this and other micro-organisms, it is characterized by a specificity which is distinctive.

Eighth.—That the bacillus icteroides is very susceptible to the influences injurious to bacterial life; and that its ready control by the processes of disinfection, chemical and mechanical, is assured.

Ninth.—That the bacillus icteroides produces *in vitro* as well as *in vita* a toxin of the most marked potency; and that, from our present knowledge, there exists a reasonable possibility of the ultimate production of an antiserum more potent than that of Professor Sanarelli.

In this connection we direct the reader's attention to article by Dr. Gradwohl in another department of this publication, which gives a *resume* of the present controversy between Surgeon-General Sternberg and Professor Sanarelli relative to the bacillus *icteroides* as the specific micro-organism of yellow fever.

FRANCE AND HYSTERIA.

If there is one neurotic trouble over and above all others which has its pre-eminent domain, in the French nation, it is hysteria. No country has presented so many epitomies of secular hysteria as France; indeed, intense and seemingly exaggerated as are many of Max Nordau's assertions, still at the present time his statement that France "is now in the midst of a severe mental epidemic of a sort of black death of degeneration and hysteria" is not wildly extravagant. While history shows that secular hysteria was formerly manifested sporadically and had no importance in the life of the whole community, it now assumes monstrous and far-reaching effect, involving, seemingly, the entire French nation. France has no counterpart for neurotic display. The history of the Dreyfus trial shows beyond all doubt an extraordinary emotionalism which can only come from a morbid mobility engrafted by time and heredity. To the spectator at a distance it is incomprehensible and utterly inexplicable to reconcile with common sense the disproportionate impressibility of the psychic causes there constantly manifest—surprising and astounding effects from seemingly insignificant causes which can only be explained upon the basis of absolute morbidity of an almost entire nation. Their excessive excitability, their inordinate self-love, and the unbounded influence of suggestion and imitation conveys to their imagination erratic and exalted senseless ideas. Many of the actors in this Dreyfus drama show the boundless mendacity of the hysterical, believing the truth of their crazy inventions. Everything conveyed to their consciousness is conveyed in an utterly excitable and exaggerated manner. Many of these actors seem willful liars, but they are plainly the manifestation of a deep morbid condition. The hysterical, by their morbid condition, their falsity of conception, are insincere, unconscious creatures of falsehood and hypocrisy and attempt to make others believe as themselves; and all their moods are inconsistent with truth, justice, and reason; their souls lie to them and the world, and they are incompetent to see it. The hysterical suggests to himself that his ideas are founded on true perceptions, and he believes in the truth of his forlorn inventions until a new suggestion—perhaps his own, perhaps that of another—has ejected the earlier one. Like the ostrich, they become self-deluded and unconsciously show the bare enormity of their misled judgment. The hysterical are fond of glaring colors, extravagant forms; ever wish to attract attention, to be talked about. Such pitiable pictures can be seen in Guéron, Mercier, Gonse, Roget, and others. We know of no stronger picture than one given by Nordau of the influence of suggestion upon the hysterical than the following: "De Goncourt relates that in 1870, during the Franco-Prussian war, a multitude of men numbering tens of thousands in and before the Bourse in Paris were convinced that they themselves had seen—

indeed, a part of them had read—a telegram announcing French victories fastened to a pillar inside the exchange and at which people were pointing with their finger, but as a matter of fact it never existed." Hysteria, errant suggestion, and degeneration apparently now enshroud France in a sort of black death. What will be the outcome?

PROFESSOR GRASSI AND THE ETIOLOGY OF MALARIA.

The Italian Superior Health Council, having carefully considered the investigations and experiments on the etiology of malaria carried out by Professor Grassi, Lecturer on Comparative Anatomy in the University of Rome, has given him a fund to assist him in pursuing his work. This is a just recognition of scientific labor, and one to be emulated by all other countries. It is but a just tribute to the work of those ardent investigators who have been sacrificing their time, their money, and their physical resources in the interest of science and humanity, with scarce any reward other than the pleasure vouchsafed to each in the noble work which they pursue. In many instances, moreover, these men have been met with bitter opposition by the bigoted and prejudiced. Let the good work of fostering investigation by the bequest of princely sums go on and, in truth, the millennium of medicine as a science will soon be reached.

THE PAPYRUS EBERS.

The most important source of Egyptian medical knowledge, because most recent and complete, is the Papyrus Ebers (Rameses II.). This gives a description of some of the drugs used in Egypt about the time of the Pharaohs, and it illustrates the diseases then treated, and what remedies were used in sickness. The Papyrus Ebers embodies some of the most ancient knowledge known concerning the therapeutics of the remotest periods. From it we learn something definite about Egyptian anatomy, physiology, and pathology. George Ebers, its discoverer, a cultured German Egyptologist, who devoted his attention not only to Egyptian exploration, but also to the mythology and geography of that country, was far more wide-sided in his researches than most of his fellow Egyptologists of modern days. He died last year. Although he had to struggle during the greater part of his life-time with ill-health in the form of paralysis of his lower extremities, and had to work on a couch, he produced much valuable literary work on Egyptian customs, written in the form of novels. Before his attack he traveled in Egypt for Baedeker, to prepare a guide-book for Egypt, and succeeded in producing one of the best guide-books ever written. He was overtaken with illness on that journey. It was then, also, that he discovered the papyrus, called since by his name, "Papyrus Ebers," one of the most remarkable of the eighteenth dynasty papyri—especially important because it deals with disease, gives descriptions of symptoms and recipes for treatment, many of which read exactly like the prescriptions of modern doctors. Ebers was sixty-one years of age when he died.

THE PLAGUE IN EUROPE.

From recent official statements the prevalence of the plague in Europe seems certain. According to current reports, during June sixteen cases and six deaths occurred at Oporto. Forty-four cases with fourteen deaths had occurred in that city since June 16th. August 23d cases have occurred at Lisbon and other points, showing that southern Portugal is widely affected. According to rumor, a death has occurred at Barcelona on the Mediterranean shore of Spain, thus threatening the whole of the peninsula. An outbreak of the pestilence is reported in southeast Russia. So the outlook for Europe escaping the plague certainly looks improbable. It is too early in the season to form an idea as to its extent of prevalence, but certain it is that commerce and business must suffer from the establishment of quarantines.

THE DEATH OF PROFESSOR BUNSEN.

The death of Professor Robert Wilhelm Bunsen, at Heidelberg, is reported. It certainly seems that well-regulated mental labor is conducive to longevity, for Professor Bunsen was a man of unusual mental activity, and he reached the age of eighty-eight. Professor Bunsen was the author of some of the most brilliant discoveries recorded in the annals of chemistry. He was the founder of gas analysis by volumetric methods. He, above all others, gave an impetus to stellar chemistry by the aid of the spectroscope upon analyses, and through it was enabled to announce the existence of hitherto unrecognized elements. Professor Bunsen's practical discoveries are indelibly associated with the Bunsen burner, the vacuum pump, and the photometer. His life was influence of good. He will ever remain the father of chemistry.

Fragilitas Ossium Among Workers in Lucifer Match Factories.—Dearden (*Brit. Med. Jour.*, July 29, 1899) speaks of the occurrence of general affection of the bones in workers in match factories and says that this matter of fragility of bones in general has not received as much attention as the occurrence of necrosis of the jaw in said workers. He cites cases where fractures of both thigh bones have occurred in men who were subjected to the same conditions in their work in lucifer match factories. He gives actual figures in regard to the chemical composition of the bones in match workers as compared to the composition of normal bones: the bone examined was a distal phalanx which had been cut off the finger of one of these factory hands while working upon a wood shaving machine. It was seen from this examination that the relative proportion of phosphoric acid to lime is distinctly greater in the "dipper's" bone than in the healthy one, the difference amounting to nearly 1 per cent. This excess of phosphoric acid combines with the pre-existing neutral phosphate of lime to form a slightly acid salt and this combination resulting in the formation of the acid phosphate of calcium is responsible for the condition of "fragilitas ossium" met with in these people. Dearden says that in all probability the chemical analysis of a necrotic sequestrum from a "phossy jaw" would yield important results in this direction.

ORIGINAL ARTICLES.

A CASE OF IMPERFORATE OS AND LACERATED PERINEUM—TWO OPERATIONS—RECOVERY.

By HERMAN E. PEARSE, M. D., Kansas City, Missouri,

Consulting Surgeon Woman's Hospital, and to the Kansas City, Fort Scott and Memphis Railroad Hospital; Member Western Surgical Association, the American Medical Association, Etc.

IT IS extremely rare to find in the records furnished by American literature any cases in which a cavity lined by a mucous membrane becomes entirely closed. Cases in which the opening is much narrowed, in which stenosis of a greater or less degree exists, are, it is true, quite common; but the conditions are such where mucous membranes are involved that complete closure rarely takes place. Indeed, many physicians have expressed their opinions that closure never occurs. That cases of this kind are occasionally found, however, is a fact, as will be shown by the medical literature of past years, as well as by the following case:

Mrs. T——, of Kansas, was attended in confinement in the month of August, 1898. The position was faulty, the head large, and the soft parts rigid; and, as a consequence, although she had one of the most careful physicians of Southeast Kansas to attend her, and although he, at the proper time, called consul to assist him, the perineum was torn, the tear extending through the sphincter muscle, and some two inches upward into the bowel. The child did not live. No note was made at the time of laceration of the cervix. This laceration of the perineum was at once closed in the customary manner by the physician in charge, and there was apparently no reason why union should not have taken place. However, a few days later septic infection developed, the uterus above becoming acutely inflamed, the temperature high, the pain severe, and it was found necessary to irrigate freely and frequently, and to remove the stitches from the mended perineum, so as to give perfect drainage and free access to all absorbing surfaces. The case made a slow, tedious recovery, and in February of 1899, some six months later, applied to Dr. Geo. E. Cole, of Girard, Kansas, for relief from the sagging pain and feeling of weight and heaviness in the pelvis. The doctor being informed of the laceration decided he would mend it, and upon examination preparatory to doing so was surprised to find the vagina of normal shape, ending in a small *cul-de-sac*, above which could be felt the outline of a large, soft, movable cystic tumor. This the doctor correctly diagnosed as a uterine retention cyst, due to closure of the external os. The patient, accompanied by her physician, Dr. Cole, came to Kansas City for relief from this condition, and was placed in my care. On March 30th, under cocaine anæsthesia, assisted by Drs. Cole and Jabez N. Jackson, I opened this retention cyst in the following manner: The patient was placed in the extreme lithotomy position, the parts were thoroughly cleaned and

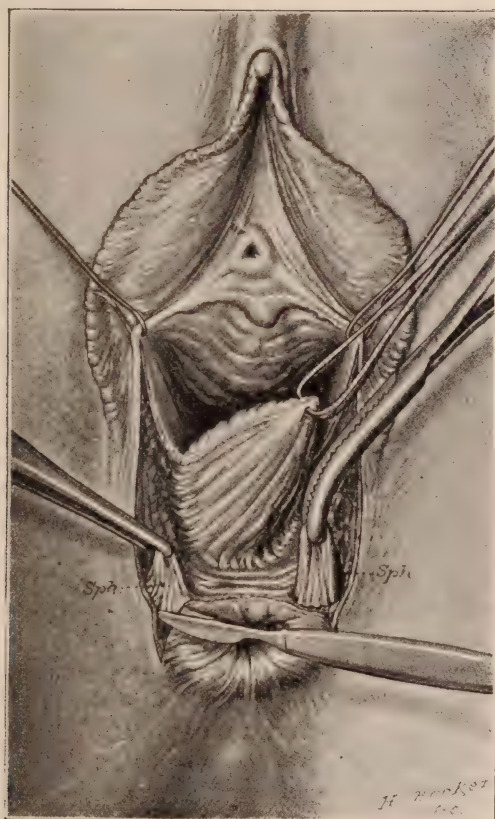
rendered aseptic. The field was exposed by a short Jackson retractor, anteriorly and posteriorly. A small bluish area could be seen at the upper portion of the anterior vaginal wall. This was found to be the cervix; the anterior lip and the line of scar tissue which marked the closed os was in sight. The posterior lip was buried in the posterior vaginal wall, the mucous membrane being blended. The cervix was caught up by tenacula and the os separated from the posterior vaginal wall, and the cervix incised along the line of scar tissue. The cicatrix proved to be about one-quarter of an inch in thickness. After cutting through this a quantity of menstrual blood poured forth, amounting to about twenty ounces; the opening was then enlarged, a pledget of gauze passed into the uterine cavity for drainage, and the whole was allowed two weeks to heal, which it did without incident, under strictly aseptic conditions.

In April, 1899, assisted by the same gentlemen, the cure of the perineum was undertaken, and as it involved two procedures somewhat different from the ordinary, I shall describe the operation in full. Two objects were sought in this operation which are not usually obtained in the ordinary method of denudation and suture.

The first was a perfect union of the anal sphincter, uncomplicated by adhesion to the perineal body; the second was the protection of the plastic work on muscles and fascia by covering all with mucous membrane. The edges of the wound in the bowel were trimmed with a pair of scissors, and the mucous membrane of the bowel closed by chromicized catgut stitches. This line of closure was brought well beyond the dimple which marked the site of the ends of the torn sphincter muscle, then the skin and mucous membrane, which floors the vulvar outlet on each side of this line of suture were dissected away from each side, and the cicatricial tissue cut away from the ends of the sphincter muscle. The end on the left side was caught with a tenacula held in my left hand, while with a sharp bistoury in the right hand I dissected out the tissues and pulled forward the sphincter muscle after the fashion described by Howard Kelly, of Baltimore.

This was given to an assistant to hold, and the end of the sphincter on the right side was treated in the same way. With the finger in the rectum, and the two tenacula brought together, it was possible to feel the contraction of the sphincter muscle entirely around the finger, and traction made upon the end could be plainly felt. The two ends of this muscle were united by three chromicized catgut sutures and released. It will be remembered that the rectal tear was closed beyond the site of these torn muscles, so that when they were released after being united they fell across the line of union in the bowel. Now came the second step—the plastic work upon the muscles and fascia, and to protect the same by mucous membrane. In this part of the operation I followed the technic of Robert Morris, of New York City. The levator ani muscle and the transverse perinei muscle lay contracted and useless on either side, and adhered to the torn pelvic fascia. This is always the case after complete laceration. To liberate these, I first found the one on the left with the finger of the left hand. I continued the dissection of the vulvar mucous membrane, as above described, beyond this muscle, then plunged a pair of straight scissors obliquely upward and backward, separating this muscle from the superficial fascia and tissues of the buttock, thus liberating it

from its external adhesion. This was repeated on the right-hand side. With a large curved needle, threaded with a fourteen-inch ligature of kangaroo tendon, the muscles were then picked up, passing the needle from below upwards or towards the vagina. This stitch included the muscle and the inner edge of the scissors wound—*i. e.*, the fascia on the pelvic side. The needle was then unthreaded, passed on the other end of the ligature, and the other muscle caught up in the same way. This



stitch was so inserted as to bring the edges together about one-fourth of an inch above the restored sphincter. A second and third suture was passed higher up, and all three firmly tied. I now had a perfect bowel, a perfect sphincter, and a perfect anatomical perineum composed of muscles and fascia, firmly tied with animal sutures that would be absorbed in about a month to six weeks. I now brought in the flaps of mucous membrane that were dissected back at the beginning of the operation, and sewed them by a continuous catgut suture in the middle line. Ordinarily, such a wound would heal by primary union, and the patient could move about at the end of ten days; there would be no stitches to remove; and I cannot conceive of a more desirable condition in which to leave a patient

after such an operation. In the case under consideration, however, the unlooked-for menstruation appeared two or three days after operating, and, being the first period after the uterine operation had been done, was of an acrid and irritating nature. The superficial stitches became inflamed and rapidly ulcerated through, allowing the parts to separate. At this time the special value of the method of closure of the more important parts became apparent, for they held firmly in spite of the infection from above, and the entire wound closed with perfect functional results both in bowel and perineum.

I believe that in cases in which the sphincter is intact, this method of closing the perineum will be found by far the most rapid and satisfactory method that can possibly be employed, giving muscular union and a resiliency of the perineum sufficient to endure a succeeding confinement without rupture.

THE STERNBERG-SANARELLI CONTROVERSY IN REGARD TO THE BACILLUS ICTEROIDES AS THE SPECIFIC MICRO-ORGANISM OF YELLOW FEVER.

By R. B. H. GRADWOHL, M. D., of St. Louis, Missouri.

THE question of the hour in bacteriologic and medical circles generally is the controversy now going on between Prof. Sanarelli, of Bologna, Italy, and Surgeon-General Sternberg, of the U. S. Army. Sanarelli has isolated a micro-organism called by him the *bacillus icteroides*, which he claims is the specific micro-organism of yellow fever. Sternberg has isolated a bacteria called by him the *bacillus x* which he first thought was the specific etiologic agent in yellow fever, but which he now thinks is only an accidental saprophyte occasionally found in that disease. At the time of Sanarelli's first publication of his discovery, Sternberg affirmed that the *bacillus icteroides* was nothing more or less than Sternberg's *bacillus x*. Sternberg more recently, however, came to the conclusion that the *bacillus icteroides* is not identical with the *bacillus x*. He refuses, nevertheless, to recognize the *bacillus icteroides* of Sanarelli as the microbic cause of yellow fever. *The Medical News*, of August 12, 1899, contains an article written by Prof. Sanarelli in which he endeavors to establish the specificity of his *bacillus icteroides* in spite of the contradiction of Sternberg, Reed and Carroll (Sternberg's bacteriological assistants in the Army Medical Museum at Washington), and Novy, of Ann Arbor.

In this article Sanarelli rejoices that Sternberg has at last acknowledged that the *bacillus x* and the *bacillus icteroides* are not one and the same micro-organism, but laments the fact that Sternberg is not yet willing to concede that the *bacillus icteroides* is not all that its discoverer claims it to be—*i. e.*, the specific cause of yellow fever. Sanarelli endeavors to refute the statements of Reed and Carroll in regard to their

claim that the bacillus icteroides is in reality only the bacillus cholerae suis or the bacillus of hog cholera: Sanarelli affirms that it is utterly impossible to obtain experimental results with the bacillus icteroides and the bacillus cholerae suis such as Reed and Carroll obtained, and says that these two investigators must assuredly have confused the two micro-organisms in their work, and that this "mixing-up" of the two bacteria in their laboratory is responsible for the results which they have obtained.

Sanarelli makes the point that the areas of focal necrosis said to have been produced in the liver by experimental inoculation with the bacillus cholerae suis by Reed and Carroll must assuredly have been produced by the bacillus icteroides, as it is a matter of fact that the bacillus cholerae suis produces no such lesions. This is Sanarelli's main reason for supposing that Reed and Carroll mixed the two micro-organisms accidentally in their laboratory.

Sanarelli disposes of Novy's statements by saying that Novy has not had enough practical experience with yellow fever and the natural conditions prevailing in yellow fever climates to pass upon the specificity of the bacillus icteroides. Novy has said that the bacillus icteroides is not destroyed by exposure to low temperatures, and that, therefore, it is not the cause of yellow fever, which is a disease found only in warm tropical or semi-tropical countries. In refutation of this, Sanarelli cites cases of yellow fever occurring in cold regions and scorns the idea that there should be a question about the relative specificity of the bacillus icteroides simply because it stands exposure to low temperatures.

Now comes Sternberg with an answer to Sanarelli in *The Medical News* for August 19, 1899. In this article Sternberg alleges that he has been misquoted by Sanarelli, who said that Sternberg has always erroneously believed that the cause of yellow fever was to be found in the intestinal tract. Sternberg affirms that he did *not* adhere to the supposition that the disease was localized in the stomach or intestinal tract, but that he only carried on investigations in the direction of possible intestinal localization of the disease because he had had no success in searching for the bacillus in the blood and abdominal organs. Moreover, Sternberg questions the specificity of the bacillus icteroides in yellow fever simply because it has not been found invariably present in typical fatal cases of the disease and the disease has never been experimentally produced in man by subcutaneous inoculations with the bacillus icteroides. Therefore, the bacillus icteroides is not the cause of yellow fever, says Sternberg. Sternberg's reasons for refusing to admit the specificity of the bacillus icteroides are found in the following conclusions of his article:

First.—The micro-organism has not been found invariably present, and there is a possibility of the confounding of the bacillus icteroides with one of the varieties of the bacillus coli communis by the bacteriologists who have claimed to have isolated it, notably Sanarelli.

Second.—In Sternberg's work upon the disease, cultures from the blood, organs, etc., failed to give a positive result in thirty out of forty-three cases.

Third.—Sternberg failed to reproduce the disease in animals.

Fourth.—The experiments of Reed and Carroll in the Army Medical

Museum showed an agglutination of the bacillus cholerae suis by the use of Sanarelli's serum; also, that serum from an animal immunized against hog cholera caused typical agglomeration of Sanarelli's bacillus; also, that cultures of the bacillus icteroides produces typical lesions of hog cholera when fed to pigs.

Fifth.—The blood serum of yellow fever patients does not give a Widal reaction with the bacillus icteroides.

Sixth.—The results obtained in the treatment of yellow fever patients with the anti-amaryllic serum of Sanarelli have been negative.

The special commission appointed by the United States Marine Hospital Service, consisting of Surgeons Wasdin and Geddings, to investigate the cause of yellow fever in Havana, Cuba, have filed their report, and they conclude that the bacillus icteroides of Sanarelli is the specific etiologic factor at work in that disease. They separated it in pure culture from the blood of thirteen patients with yellow fever, and it was separated from the blood of a fourteenth patient by an independent observer. They failed to find a similar micro-organism in many cases of patients dead of other diseases. They report adversely as to the good effects of the anti-amaryllic serum of Sanarelli in the treatment of yellow fever. Archinard, of New Orleans, also failed to obtain good results with this serum.

It seems that the weight of opinion goes to support Sanarelli's discovery of the specific micro-organism in yellow fever—*i. e.*, the bacillus icteroides. The work of the United States Marine Hospital Commission is highly reliable and is another strong link in the chain of evidence in Sanarelli's favor. As the matter now stands, the bacillus icteroides must be accepted as the etiologic agent until further investigation will disprove it.

Century Building.

DIPHTHERITIC PNEUMONIA.

By M. DWIGHT JENNINGS, M. D., of St. Louis.

THE case I wish to report is of unusual importance, made so from the fact that medical literature is very brief on this particular subject. The specific result obtained from the treatment given illustrates the necessity for a positive diagnosis. The patient was Eddie P., two years of age, a well-nourished, plethoric child. Family history is good; both parents living; have a family of five healthy, robust children. One child died with meningitis at the age of eight months.

Patient was playing in the house all day on the 29th of September, and slept in the same bed with a child that was then suffering with what the parents supposed to be croup, but which developed rapidly into one of the most malignant cases of pharyngo-laryngeal diphtheria I have ever seen.

On the first day of October, about forty-eight hours from the time of his exposure to diphtheria, patient was brought to the office with the following symptoms of illness: Had a slight fever, temperature, 102° F.; restless, crying, croupy and coughing; a dry, harsh, barking cough, characteristic

of membranous croup. The child was becoming hoarse and croupy. Knowing the child had been exposed to diphtheria, I at once concluded I had a case of laryngeal diphtheria to deal with. I so informed the mother, who had brought the child to the office, and gave her instructions to carry out the following treatment: Give one powder every two hours, consisting of one-eighth grain of calomel, one-half grain bicarbonate of soda, two grains each of tannate of quinine and peptenzyme. The mouth and pharynx were to be sprayed every three hours, using the following solution in an atomizer:

R Mercury bichloride.....gr. $\frac{1}{3}$
 Hydrogen dioxid.....fl. $\frac{3}{4}$ ij
 Listerine,
 Glycerine.....aa fl. $\frac{3}{4}$ iv
 Water.....enough to make fl. $\frac{3}{4}$ iv
 M. Sig.—Use with an atomizer.

The interior of the nasal passages was to be kept well anointed with vaseline. Attention to the nasal passages in all cases of diphtheria I regard as important, the superior middle and inferior fossæ of the nasal passages being a most favorable location for the propagation of the Klebs-Loeffler bacillus and its ptomain. Even in cases where there may be no membrane in the nasal passages, owing to a deflected septum, a hypertrophied turbinate, or a general hypertrophy of the Schneiderian mucous membrane, we often have pockets, or it may be an entire nasal cavity that is undisturbed by a current of air for sometimes days. A more favorable soil could not be found for the development of the bacilli and their deadly product, the ptomain. And the mucous membranes in these passages are rapid absorbers. The vaseline, when well introduced, acts in two ways: It prevents the development of the bacillus, and covers the mucous membrane, thus preventing absorption.

On the second day there was very little change. The child was not so restless and to all appearances was a little better. Appetite very poor; bowels moved freely. The croupiness was slightly improved, though the child was still hoarse with the crowing cough.

The third day the child was very much better. The symptoms were all improving so that it seemed the child was going to recover without any further difficulty.

At two o'clock on the morning of the fourth day I was called, on account of the child's condition growing rapidly worse since the morning of the third day. I found the following symptoms present: Temperature, 105° F.; respirations, 80; pulse, 150; cyanosis and coughing. Inspection revealed evidence of dyspnoea, dilated nostrils, rapid respiratory movement and retraction at the base of the chest; very little, if any, expectoration. Auscultation revealed fine, whistling rales and bronchial breathing. The hoarseness had passed off, the cough, while spasmodic, was not harsh and barking, the laryngeal inflammation was not causing any obstruction. My patient was now suffering with catarrhal pneumonia, or rather an acute *fibrinous pneumonia*.

Knowing my patient had been exposed to diphtheria, and only four days previous, I believe, had a commencing laryngeal diphtheria, it was a reasonable conclusion that the pneumonia was due to the diphtheritic ba-

cillus. I at once gave my patient two thousand units of diphtheritic antitoxine at the first injection, injecting it into the subcutaneous tissue of the abdomen, after washing the abdomen with a five per cent. solution of carbolic acid. In order to find out the specific cause of this pulmonary inflammation, I had a biological examination made of the secretion from the child's throat by the bacteriologist in charge of the Barnes Medical College of this city. His report was as follows: "Received on 4th of October, 1897, specimen cotton swabs infected with secretion from the throat. Inoculations in sterile tubes of Loeffler's serum developed colonies of the bacillus of diphtheria (Klebs-Loeffler), staphylococci and streptococci, a mixed infection, is certainly from a case of diphtheria complicated with staphylococci and streptococci."

"The virulence of the diphtheria bacillus was proven to be very great."

I kept up the administration of the small doses of calomel one-tenth grain, and two grains of pepsin every three hours as gastric and intestinal antiseptic. I also prescribed for the cough one grain of muriate of ammonia, one drachm of brown mixture, one-half drachm belladonna every two hours, and had placed upon the chest a piece of flannel several plys in thickness, saturated with turpentine and lard. The inhalations of the vapor of turpentine as it is driven off by the heat of the body is the way in which we expect to derive benefit from this remedy. The room was kept well ventilated, a light and nutritious diet was ordered. At nine P. M. of this same day, the fourth, twelve hours after the antitoxine was given, the condition of my patient was very little changed, except temperature reduced one degree lower than at nine A. M. of this day.

Fifth day, ten A. M., temperature, 102° F.; respirations, 50; pulse, 120; cough not so dry, more mucous, and shreds of diphtheritic membrane now beginning to be coughed up. Resting well, though coughing a great deal. Took some nourishment—milk and broth. Seven P. M. of the fifth day, temperature, 101°; pulse, 110; respirations, 44; coughing, expectorating freely mucous and shreds of membrane. Respiratory sounds were becoming moist, subcrepitant and mucous râles.

The morning of the sixth day, forty-eight hours from the introduction of the antitoxine, temperature was 99° F., pulse 100, and respirations 29. The child made an uninterrupted recovery.

I have treated a number of cases of catarrhal pneumonia, with an average of recoveries.

These cases are most always preceded by some other disease, such as measles, whooping-cough, or bronchitis due to some unclassified organism. The recovery in these cases is always slow—by lysis, when recovery does take place.

In all my experience with catarrhal pneumonia I have never seen a case in which the conditions were so grave make so phenomenal a recovery.

It was my conviction that the rapid recovery, almost at the crisis, was due to the specific action of the diphtheritic antitoxine.

AN INTERESTING CASE.

By FRANK M. FLOYD, M. D., of St. Louis.

IT APPEARS to me that the following case deserves, for various reasons, to be reported. The patient in question was brought to me by his family physician, who gave the following unique history: The patient, a man of about twenty-eight years, married, laborer in a saw-mill, had, about four years before, contracted syphilis, for which he was thoroughly treated for two years.

About three months ago he was in a fight, and was bitten on the distal joint of left forefinger by a man whom the same physician was treating for syphilis, and who at that time had a very sore mouth. The wound was not considered serious, but was dressed with iodoform salve and gauze, and energetic anti-syphilitic treatment at once instituted, large doses of biniodide of mercury being given three times daily. The finger apparently did well for six or seven days, when the skin surrounding the wound, and soon after the entire finger, became much inflamed and swollen, large blebs formed, and in a week the entire member was a raw, bleeding mass. At the beginning of the inflammation large quantities of iodoform and bismuth sub. nit. were applied, and this treatment, together with the mercury in large doses, was steadily continued to the day when I saw the patient.

At the end of a month the family physician and two others consulted, and decided that the finger was affected beyond recovery with syphilitic gangrene, and it was accordingly amputated at the proximal joint. In order that the gangrene might not spread, the mercurial treatment was pushed, and potassium iodide was also introduced. The wound was dressed as usual. A month after the operation the amputation wound was almost healed, but the entire hand had been gradually swelling, blebs began forming, the nails turned dark, and a week later the entire hand was in about the same condition as was the finger at the time of amputation.

Another consultation was held, and amputation of the hand advised, but refused. The process spread now rapidly up the forearm, and in five days the right hand began to swell, immense blebs formed all over it, the nails became black, and in ten days it was in worse condition than the left, the iodoform and bismuth having been applied lavishly to it from the time the blebs began to form.

Another consultation with some additional physicians was held, and the patient advised to have both hands amputated at once if he desired to live. He refused absolutely to consent to the operation.

The treatment, both local and general, was continued. The process spread up both forearms, and in a few days the right ear, side of neck and face became involved, blebs formed, and the condition was similar to hands.

The patient thereupon decided to seek other treatment, and was brought to me by his family physician. After hearing the foregoing history by the physician, it being concurred in by the patient, I started to make an examination on my own account. The parts were so covered by the iodoform and bismuth that no information was obtainable from them,

so the patient was sent to a hospital and the parts thoroughly cleaned. The cleaning occupied an entire forenoon. A general examination then brought out the following facts: Each hand and forearm was swollen to about twice the normal size; both were entirely innocent of epidermis, and were oozing bloody serum very freely. The nails were black, and could be lifted away from the fingers back to the roots, but were highly sensitive and caused intense pain when touched. The entire surfaces of both hands and wrists were highly painful on contact. To the elbow of each arm the skin was red, very painful, and blebs were forming. The same condition existed on right ear, side of neck and face. There was general swelling of entire body, from face to feet, and toe-nails were dark and very tender. The eyes were injected, and there was acute conjunctivitis. He was somewhat deaf. Hair falling out. The mouth, so the physician advised me, was full of mucous patches; I found it quite raw, and any or all teeth could have been removed with fingers. Breath highly offensive. All glands enlarged. Appetite very poor; stomach deranged; and he was suffering from severe constipation. Temperature 100° F. Urine scant, high colored, heavy with albumen, and readily answered tests for mercury. Weighed in health about 145 pounds; weighs now 120 pounds. Very anæmic; red-blood corpuscles reduced nearly fifty per cent. Penis showed no scar. Patient said he had a small sore about three years ago; had recovered in a few days.

After considering all the facts presented, I decided that the man was not suffering from syphilis, and probably had never had it, but that it was a case of genuine mercurial and local iodoform poisoning, the most extensive and virulent that I had ever seen. Acting on this theory, I enclosed all the affected parts in large, wet dressings of sterilized gauze and distilled water, and administered saline cathartics and diuretics as frequently as they could be borne. The salines and diuretics were continued for fifteen days, and the wet dressings for ten days longer, after which unguentum resinol was the only medicament employed. This remedy was applied to the arms, side of neck and face twice daily, with the result that the denuded surfaces healed kindly without leaving a scar. In ten days more he was well, except that the new nails were not yet full length. He was then discharged, and has had no further trouble, local or general, one year having elapsed.

Bilateral Iritis of Malarial Origin.—At the Congress of Ophthalmology M. Pechin remarked that malarial lesions seldom attacked the iris. He had, however, observed a case of bilateral iritis occurring in the right eye during a first attack of intermittent fever and in the left eye five or six years later during a second attack. The patient was a woman, forty-eight years of age. There were no specific antecedents. During the course of the illness, which was of the tertian variety, the right eye became red. Five years later the patient suffered from another attack. The disease lasted eight days. The malarial cachexia lasted eight years, and the left eye was invaded in its turn. At present there are complete synechia on the right side and pupillary exudates upon the left. There are no deep lesions. The occurrence of the ocular phenomena during malarial attacks warrants the statement as regards etiology.—*Le Progres Medical*.

THE MOTOR NEURON AND ITS PRACTICAL UTILITY IN DIAGNOSIS.

By JOHN PUNTON, M. D., of Kansas City, Missouri.

THE knowledge we possess to-day of the structure and functions of the nervous system has been derived from various sources. All the varied lines of research, however, can, it seems to me, be reduced to two great departments of study, viz.: First, its macroscopical; and second, its microscopical study.

These two departments also naturally divide the subject into two great epochs, the first dating as far back as Vesalius, the worthy founder of anatomical science in 1514 A. D., and the second from the introduction of the microscope into medicine by Lewenbeck in 1690 A. D., until the present time. In these are included all the varied lines of research such as anatomy, physiology, bacteriology, chemistry, embryology, histology, venesection, post-mortem examinations, etc., and all the various discoveries accruing from such studies from whatever source, representing as they do all nationalities, belong to one or other of these two great periods.

Without any desire to underestimate the labor and value of the knowledge furnished us by such men as Vesalius, Eustachius, Fallopius, Pacchioni, Harvey, Willis, Vieussens, Meckel, Scarpa, and many others belonging to the first epoch and whose names are already honorably immortalized in human anatomical nomenclature, nevertheless it is to the microscopical epoch that our greatest advance belongs and that which we are compelled to recognize as furnishing us the most brilliant results as well as the most practical knowledge.

It is to certain consequences concerning this microscopical period, therefore, that I desire more especially to call attention to at this time—consequences that are of the utmost importance to not only the neurologist, but also general practitioners in their daily avocation. While it is true that as early as the seventeenth century many important text-books had been furnished the medical profession describing the anatomy and physiology of the nervous system, yet these all pertained to what may strictly be termed its macroscopical study; so that, as Dr. Edinger justly remarks, “hardly anything of importance remained to be added to the coarser structure of the nervous system.” Nevertheless, at this late date, scarcely any advance had been made in what we to-day recognize as the most important knowledge, for the minute connections of the nerve tracts with the various groupings of cells in both brain and spinal cord had never been studied; nor was this possible until the perfected microscope was brought to our aid, together with the various tissue staining methods.

The wonderful advance since that time beomes even the more conspicuous when we remember that up to the middle of the present century, and possibly even in the college days of many physicians here to-night, the most prominent method of investigation was anatomical dissections with the knife and teasing out fibers from hardened specimens with crude forceps. Compared with this, let me remind you of the wonders wrought by the perfected microtome, together with all the other marvelously deli-

cate instruments which belong to every well-equipped bacteriological and histological laboratory. To us it is clear that the simple process of teasing could not possibly reveal the desired information concerning the cell and its various appendages. A new method was, therefore, sought, and, fortunately for us, was furnished by B. Stilling, who, in the year 1840, laid the foundation of the true science of histology by preparing three sections, or rather whole series of sections made in different but definite directions through the various parts of the nervous system. Even this failed to furnish us all the desired information, but it had the effect of stimulating others to labor in similar fields, which resulted in Turck's great discovery, viz.: that a break in the conductivity of a nerve fiber of the spinal cord led to a degenerative process which spread upwards or downwards, according to its seat. This fact when elaborated upon gave us the pathological classification of the cord into systemic and non-systemic diseases. Twenty years later Von Gudden discovered the fact that if either peripheral or central nerve substance was removed from new-born animals, the fibers connected with the parts removed ceased to develop and were gradually destroyed. This atrophic method when enlarged upon brought to light many other facts, all of which are now embodied in the science of neurology. Seven years later, while Fleschsig was engaged in a brilliant series of experiments, he discovered the fact that in foetal life certain nerve fibers that were functionally related developed simultaneously and in the definite direction in which they were destined to transmit impulses. Prior to this discovery the structure of the white substance of the brain beneath the cortex had been demonstrated by the microscope to be composed of medullated nerve fibers passing in every conceivable direction, and in the healthy adult they looked on section to be all alike, hence it was impossible to differentiate those that were functionally related. But after Fleschsig made his discovery, it was possible to separate the different nerve tracts and trace their course and destination.

Upon comparison it was found that these three methods of investigation—viz.: First, the degenerative method discovered by Turck in 1850; second, the atrophic method of Von Gudden discovered in 1870, and third, the developmental method of Fleschsig, discovered in 1877—all combined to show the existence of separate tracts of nerve fibers in the white matter of the spinal cord, and it was but a step to apply these same methods to the study of the brain. For many years it was impossible, however, to define clearly, even with the perfected microscope, the finer structure of nerve cells; but this obstacle was eventually overcome by the introduction of new tissue staining methods. Prior to the use of the Weigert, Golgi, Ehrlich, and Nissl staining methods, no one had seen a nerve cell in its totality; but with these and other modern histological instrumentation, we are now able to recognize the nervous system as being composed of a series of nervous units. It still remained to select a satisfactory name to include the whole of the elements or units belonging to each cell. Fortunately this was done in 1891 by Waldeger, of Berlin, who suggested the term *Neuron*; and this term has been universally accepted and adopted to represent the histological units of the cell, consisting of the cell body with its nucleus and nucleolus, the dendrites or protoplasmic fibers, the neuraxons or axis-cylinder processes together with their collaterals and end arborizations.

In tracing the intricate cerebral nerve tracts or fibers, we must remember that the brain is composed of gray and white substance disposed in layers and masses. The most external layer of gray tissue constitutes the cortex, the large mass of white substance beneath termed is the centrum ovale.

The cortex is composed of myriads of cells, there being, according to Gowers, no less than eight hundred millions. These cells are arranged in groups or sets which vary in size and diameter in different situations. From these proceed in every direction the nerve fibers which finally converge from the cells of all parts of the cortex to form the corona radiata and centrum ovale.

These fibers may be conveniently arranged into three great systems according to their course and distribution, viz.:

First.—Association system of fibers.

Second.—Commissural system of fibers.

Third.—Projection or peduncular system.

It is now definitely settled that there is in the brain a system of fibers whose function it is to connect the cells of different areas in the same hemisphere. These are termed association fibers. In this way the centers of sight, hearing, taste, smell, speech, motion and general sensibility are brought into intimate relationship with each other. Another system connects homologous parts of the opposite hemisphere. They, therefore, cross the median line. These are termed commissural fibers. They are designed to promote a simultaneous action of the two hemispheres as seen in acts like rowing a boat or swimming, etc.

The third system, known as the projection system, joins the definite areas of the cortex with other parts of the nervous system lying below it. They converge from all parts of the cortex and, gathering together at the upper level of the basal ganglia, either terminate in the optic thalamus or pass between the basal ganglia to other parts of the brain and spinal cord.

It has been found that many of these fibers—indeed the majority—terminate in the optic thalamus, which thus becomes connected with all parts of the cortex. Their function is at present unknown, with the exception of two small tracts or bundles which can be separated from the rest and known as the visual and auditory tracts. The fibers, however, which do not end in the optic thalamus pass on at once to the internal capsule without any communication whatever with the basal ganglia. Within the capsule the fibers again form several distinct tracts or bundles, the largest constituting the motor tract, the function of which, perhaps, is better understood than all the rest. Some of its fibers issue from the cortical cells of the posterior portion of the third frontal convolution, others from the upper two-thirds of both central convolutions, while still others from the paracentral lobule. These all unite to form a large bundle at the middle portion of the upper surface of the internal capsule. Those from the lower portion of the cortex pass straight inwards, those from the upper portions curve downwards and outwards so that within the centrum ovale they appear like the sticks of a fan, those from the lowest part of the cortex lying in front, and upon reaching the capsule the fibers of the motor tract make up a series of nerve tracts which in the capsule are arranged from before backwards in the following order:

First.—The speech tract, which conveys impulses to the pons and medulla.

Second.—The face tract, which transmits motor impulses to the pons, where the nucleus of the seventh cranial nerve resides.

Third.—The arm tract, destined to convey impulses to the arm centers in the spinal cord.

Fourth.—The leg tract, transmitting impulses to the leg centers in the cord.

Fifth.—A bundle of fibers conveying impulses to the muscles of the trunk, which lie behind those for the leg.

In addition to these there are others which constitute the various sensory tracts.

From this arrangement of the motor tracts you can readily see that the leg centers, which are situated in the highest part of the cortex, become the lowest in the capsule, while the face fibers, which are lowest in the cortex, become the highest in the capsule, while the arm centers are found midway between these in both cortex and capsule.

All these various tracts of motor nerve fibers are simply the prolongations of the cortical cells, and when properly clothed constitute true medullated nerve fibers, consisting not only of the axis-cylinder processes or neuraxons, but also the medullary layer of Schwann and the neurilemma, together with all the other histological units which make up a true motor neuron. In all well-developed multipolar cells we find at least one pole or prolongation which is prolonged or projected far beyond its fellows, and this ultimately becomes the axis-cylinder process or the neuraxon proper of that particular cell. When these are all collected together in one bundle they constitute the motor tract which presides over the voluntary movements of the body. They essentially constitute the cerebro-spinal system of nerves in contradistinction to the sympathetic system which presides over the involuntary movements of the body. The former have been shown to be largely composed of medullated nerve fibers, while the latter of non-medullated.

This great motor tract of nerve fibers which essentially is the outgrowth of cortical ganglionic cells in its course assists in forming the centrum ovale as well as the corona radiata, and upon reaching the internal capsule passes uninterrupted through the anterior two-thirds of its posterior portion, thence to form the middle third of the crus—thence to the pons, where at about its middle the facial fibers decussate to opposite sides to end in their respective nuclei. The balance of the fibers are continued by way of the pyramids to the medulla, where the great majority of the fibers cross or decussate to opposite sides and are then continued to the spinal cord, to end in the ganglion cells found in the anterior corona of its gray tissue. A few of the fibers, about ten per cent., as a rule, however, do not cross but are continued directly down the cord on the same side of their apparent cortical origin. This bundle of fibers constitutes the column of Turck's which in common with the crossed pyramidal fibers ultimately find their way to the cells of the anterior horn of the spinal cord, in which they terminate by what is known as terminal arborizations. The pyramidal tract, as already stated, crosses to opposite sides of the cord in the medulla, while the column of Turck's decussates in the

anterior commissure, the former extending the whole length of the cord, while the latter does not extend beyond the mid-dorsal region. From the ganglion cells of the anterior cornua the motor nerve fibers again emerge as a common bundle constituting the anterior roots or efferent fibers of the spinal nerves, and after receiving the afferent fibers are finally distributed to the muscles terminating in them by a blending with the motor end plates and muscle spindles. These motor nerve fibers when fully matured are found to be the prolonged processes of cortical cells, and when fully clothed with all their histological units constitute individual motor neurons. Thus the motor tract represents a large bundle of individual neurons stretched between the brain and spinal cord on the one hand, and the spinal cord and peripheral muscles on the other. It may, therefore, be said to consist of two portions, viz.: first, a cerebro-spinal, and second, a spino-muscular portion; the former constituting a series of central motor neurons, and the latter a series of peripheral motor neurons. By means of their interlacing processes each individual neuron constitutes a distinct but continuous strand from its apparent origin in the cortical cell, as well as its course to the cells of the spinal cord, and its final termination in the peripheral muscle. Any destructive lesion, therefore, in any part of its course will produce the common symptom, paralysis. Hence, the various lesions causing paralysis must have their seat in some portion of the motor tract, either in the brain, spinal cord or peripheral nerves, corresponding to the portion of the motor neuron involved in the lesion. Moreover, the accompanying symptoms as well as the character of the paralysis itself, will also vary according to the seat of the lesion, whether it be at the origin course or destination of the motor neuron involved. For instance, lesions involving the motor cortical cells, if circumscribed, give expression clinically, as a rule, in the form of monoplegias. When the lesions are situated in the deeper structures of the brain, and more especially the internal capsule, hemiplegia becomes the prevailing type of paralysis. If, however, the structures of the brain escape and the spinal cord is the seat of the lesion, paraplegia is more apt to occur. Of course, there are certain exceptions to these general rules. Should the lesion, however, involve the peripheral motor nerves, the resulting paralysis would correspond to the nerve supplying the muscle or group of muscles involved. Bell's palsy and wrist-drop are examples. Nor to the type of paralysis, as already remarked, are we alone dependent for aids in diagnosis of lesions involving the motor neuron, but the accompanying symptoms also prove valuable guides in locating their seat as well their nature and character, thus answering the two most important questions in every diagnosis, and more especially any and all diseased conditions involving the motor neuron. Now, it is a well-known physiologic fact that the bulk of the fibers constituting the motor tract pass down the spinal cord in the lateral column to enter the cells in the anterior horn. These fibers besides conducting motor impulses also control or inhibit, to a great extent, the deep reflexes. In other words, they largely dominate the knee-jerk. Under normal conditions these are moderately restrained. If, however, the upper motor neurons are impaired in their course from the brain to the spinal cord, the knee-jerk is no longer restrained, but the

inhibitory power is weakened; hence, the knee-jerk becomes exaggerated or unrestrained.

Moreover, the nutrition of muscles is recognized to be mainly governed by the cells of the anterior horn of the spinal cord; hence, lesions affecting the upper or central motor neuron do not usually cause wasting or atrophy of the muscles, but, on the contrary, they early become spastic or rigid, and later present marked contractures. They are also found to respond to the electric current; hence, they retain their normal electric reaction, which is not the rule with lesions affecting the lower motor neuron. Should the lesion, however, be solely confined to the peripheral or lower motor neuron, then in addition to the paralysis, which in this case would probably be a paraplegia, the accompanying symptoms would present a marked contrast to those already considered. For instance, on account of the probable involvement of the trophic cells the muscles would speedily become flaccid or toneless and atrophy would ensue, while the knee-jerks would probably be greatly diminished, and even abolished, while the muscles, when tested with electric currents, present evidence of degenerative reaction.

In addition, therefore, to the paralysis, the accompanying combination of symptoms assists materially in locating which portion of the motor neuron is at fault, while the manner in which the symptoms appeared, together with their causative factors and other features connected with the clinical history of the case, renders the diagnosis comparatively easy. To sum up, therefore, the differential diagnosis of lesions affecting the upper or central motor neurons and those of the lower or peripheral motor neurons in a tabular form, we find they present the following clinical phenomena:

Lesions of the Upper Produce:

Paralysis—usually hemiplegia or monoplegia.
Spasticity.
No atrophy.
Exaggerated reflexes.
No change in electrical reaction.

Lesions of the Lower Produce:

Paralysis—usually paraplegia.
Flaccidity.
Atrophy.
Decreased or abolished reflexes.
Marked electrical reaction of degeneration.

Thus the utility of the latest knowledge concerning the motor neuron, when practically applied, furnishes the physician the most valuable guide in the diagnosis of many diseases of the brain, spinal cord, and peripheral nerves which were formerly attended with great obscurity.

While it must be confessed that much of the knowledge concerning the neuron is purely theoretical and largely speculative, and already many attempts have been made to overthrow its validity, yet, so far, it offers the physician the most valuable aid in the solution of problems which before its use were considered well-nigh unsolvable. We may, therefore, be pardoned in turning our attention to the practical utility of the neuron theory in diagnosis, and until a more useful and equally practical method is furnished the profession, we shall continue to consider it the most reliable guide in the diagnosis of certain diseases of the nervous system, for practical medical science demands that we "prove all things and hold fast that which is good."

LONDON CORRESPONDENCE.

The British Medical Association.—The chief feature of English medical life which has presented itself since my last communication is the meeting of the British Medical Association at Portsmouth last week. This is a society of medical men possessing a very large number of members, many of whom, in addition to their membership of the general body, are locally aggregated into branches which hold meetings from time to time, and form pleasant centers of union and professional intercourse for practitioners of the various districts throughout Great Britain. Annually a general meeting is held at some point agreed upon—thus, last year at Edinburgh, this year at Portsmouth, and next year at Ipswich. The annual meeting is divided into three great divisions—the general meetings at which the broad work of the association is laid before the so-called “members” of the society who come to listen and are called upon to endorse the action of the governing body or “council,” over which they have no more than a nominal control. For this association, which seems at first sight to afford an admirable organization for the purpose of bringing professional knowledge to bear upon public questions, has by an unfortunate error in its inception never fulfilled this purpose. Though apparently representative, it is in reality manipulated by cliques and wire-pullers, whose aims and objects alone are represented. The sole function permitted to the members is to give their endorsement *volens nolens* to whatever is placed before them by the council. Under the appearance of having been endorsed by a society numbering thousands, paragraphs and resolutions are furnished to the general press, although when put to the vote, only five or six members of the association might have been present out of the vast number to adopt them. The association has a journal of its own, the *British Medical Journal*, which is given gratis as an inducement to membership; but so far it has exerted no appreciable influence on general questions or modified public opinion either as regards the legislature, the public health services or the rights and privileges of the medical profession. It is purely a journal of “*cliquism*” and has never represented in medical journalism anything more than the ideas, aims, and objects of a wire-pulling and monopolizing oligarchy the only restraint upon whom was that exercised by the somewhat autocratic though studiously self-seeking and vainglorious editor, the late Mr. Ernest Hart. It can be said of him, however, what can hardly be said of his successors—that his journalistic ability covered a multitude of association errors. It is more than obvious, however, that the corporate units of the association are becoming weary of the methods of “*cliquism*” and are desirous of obtaining some more effective control over the proceedings of that all-powerful and not altogether unblameless body—the “council” of the association.

The sectional work forms the second portion of the proceedings at the annual general meeting where the various branches of medical science are apportioned to various smaller chambers in which papers devoted to

some special branch of surgery, medicine, hygiene, etc., are read and discussed. It is from these papers that the columns of the *British Medical Journal* are supplied for a considerable portion of the subsequent twelve months, and when they are published, papers are read with considerable interest by many practitioners who could not possibly listen to them. The third part of the procedure is devoted to amusement and gastronomy, and at Portsmouth the hospitality of the Corporation and of the Naval and Military officers, for which the Port is chiefly celebrated, was unbounded. But the most notable feature—far more notable in Portsmouth than in any other town during the last ten meetings—was the courtesy and respect and generous welcome tendered by the inhabitants themselves which was, indeed, everywhere accorded.

The British Medical Services.—The main interest of the visit to Portsmouth centered not in the vague, diffuse, and superficial *regime* of the progress of medicine during the last hundred years which the president—Dr. Ward Cousins—had compiled with an eye probably more for general effect than for scientific purposes, but lay in the able address in surgery delivered by Professor Ogston, of Aberdeen. The address dealt with the conditions of the Medical Naval and Military Services, and drew a contrast between the facilities afforded for engineers, gunners, artisans, sailors, and those engaged in manipulating machinery for the destruction of life, and those which were afforded to medical officers in the services, whose function and vocation was to save every life possible. Professor Ogston showed that the conditions of the English Medical Services at the present day tended to exclude the most brilliant students from entering their ranks; that the conditions of service and petty disciplines rendered the life disagreeable and profitless, and later on created a feeling of disappointment and regret in those who had been induced to join it. This, indeed, is no more than true, and many cases of real heart-breaking disappointment have been within my personal knowledge. The War Office, while keeping the slaughtering forces in touch with every recent development that can aid them in the better fulfillment of their work, forgets that in the selast days the progress of medical science has been of such a character as to render effete and useless, knowledge which ten years ago was considered of the highest type. This, Professor Ogston enforced by giving an example of how the army service worked in an expedition under Sir Gerald Graham in 1885, when 11,000 men were sent to the Eastern Soudan and landed on the shores of the Red Sea. Many millions were spent upon the expedition, and it was furnished with everything, even to hospital ships, that money could buy or care provide. "Yet," he continued, "in the bearer companies the men were from Aldershot, the carts and harness from Woolwich, the mules and muleteers from Spain, dhoolies and dhoolie-bearers from India, and camels and camel-drivers from Aden. The wagons arrived in one ship, the harness in another, the mules in a third, and all at different times. When the ambulance wagons were landed, along with several carts, the pieces were mixed up, and the men had to fit them together as best they could. When the mules and harness turned up, it was found that, while the wagons were made for one kind of draught, the harness was made for

another, and so on. And the officers, non-commissioned officers and men knew nothing of one another. For the medical part of the expedition generally, the stores came without store-keepers, and without proper outward indication of what the packages contained. Chaos reigned, and I am assured," he says, "that if there had been an engagement on the day the forces landed there would not have been a bandage forthcoming for the wounded. And very much the same state of matters exists in the service to-day." This forms a considerably interesting mixture and entanglement of red tape involving medical science, War Office friction and official methods. The mischief of it is that the soldier and fighting man expects decent-treatment while he risks his life in his country's cause. In this country it has been the custom of military authorities to believe that at a moment's notice, enough civil medical men having the requisite training and skill for dealing with wounds on the field could be purchased and conveyed to the scene of action, in the same way as the horses, the mules, and the camels that an army requires. It is this contemptuous and ignorant belief that forms one of the main grievances of the medical officers of the British Naval and Military Services. They complain of the cold regard paid by the military and naval authorities to the medical services; of their lack of appreciation of them; of the way in which they are starved in their pecuniary requirements, and the fashion in which their exercises and training during peace are overlooked and neglected. All this was dealt with in an extremely interesting and effective way by Professor Ogston, whose outspoken paper was, indeed, the feature of the sixty-seventh annual meeting of the British Medical Association.

Mr. Jonathan Hutchinson, F. R. S., LL. D., F. R. C. S. Lond., etc.— Perhaps one of the most interesting excursions with which the members of the association regaled themselves after the close of their arduous labors was that enjoyed by those members who accepted the kind invitation of Mr. Jonathan Hutchinson to visit Haselmere. Mr. Hutchinson, whose name is world-renowned as an eminent surgeon, an authority on the eye and possibly the highest authority on skin diseases that this or any other country has ever known, has taken deep and philosophic interest in the spread of natural knowledge by means of the "look and say" method of teaching, bringing, as it were, nature itself to the mind instead of its bookish reflection. For this purpose he has, for many years, devoted himself as did, in the last century, both John and William Hunter, whom Mr. Hutchinson so much resembles in his life-history, in his zeal and untiring energy in the pursuit of natural science, and in the instruction of his fellows. On the other hand, he differs from the Hunters as widely as the poles in the geniality, uniformity and kindliness of his disposition. He also differs from the Hunters in the point of his extensive knowledge of English literature and English history. Mr. Hutchinson is probably the most unique medical man in this country; his acquirements are deep, profound, and universal. He has been termed the "universal specialist," and his specialization, be it noted, is not confined to merely the immediate branches of his own profession, but represents also the higher type and culture of the "humanities." He has devoted his leisure to making collections and forming educational museums where the young can study

nature without being buried under huge piles of technical nomenclature. The arrangement of his museum at Haselmere, where the party were entertained to luncheon by Mr. Hutchinson and his daughters, is typical of the arrangement of that intellectual outfit which has contributed so largely to Mr. Hutchinson's success and to the cultivation of his marvelous memory. The party, after visiting the museum and strolling over the beautiful heaths around Haselmere, were conveyed to the poet Tennyson's house, and on the lawn, within the matchless environments of this shrine, tea was provided by Sir Spencer Walpole, and the party were permitted to visit the gardens and to contemplate the curious effects which had been produced by densely planted larches, pines, yew trees, and laurels in which the house was enshrouded. It is a curious speculation as to whether such surroundings had produced Tennyson's best poems or whether the best poems had produced the surroundings; and most people agree with the latter view, that the poet made the house and not the house the poet.

Much more might be said regarding the annual medical meeting of the British Medical Association, for many of the papers discussed were of exceeding interest and will probably receive attention on a future occasion.

The Plague.—It appears that the quarantine regulations at Teheran which gave rise among the populace to rioting have been withdrawn and order has been restored. At Mauritius there were fifty-two cases of bubonic plague last week and thirty-seven deaths.

Referring to Mr. Haffkine's address on preventive inoculations, dealt with in last issue of the *INTERSTATE MEDICAL JOURNAL*, the director-general of the Sanitary Department of Egypt notifies that there the plague is now being dealt with on lines directly opposed to Haffkine's views. Mr. Rogers thinks that Haffkine's attitude is in opposition to the work of practical sanitation, and is pernicious and dangerous, especially in India, and is likely to delay really useful sanitary measures being applied, inasmuch as Haffkine's faith and sanitary salvation depends on his own inoculation theories. That preventive inoculation has not that preventive influence claimed for it by Haffkine is shown by the fact that in the epidemic in Lower Damaun so often quoted by him. There was one group of two hundred and fifty persons inoculated in sixty-two families. In this group alone fifty cases occurred and twenty deaths. The inoculation, however, could scarcely be called specific; but that they have a certain preventive influence is undoubtedly true, though the extent is still undecided. In Alexandria alone preventive inoculation of a population of 320,000 would take at least thirty-two days to perform, during which the director-general of the Sanitary Department of Egypt points out the plague uncontrolled by sanitary measures would be infecting town and country. As it is, plague has been known to exist in Egypt since May 4th, but by the application of sanitary measures the disease has been kept well under control—the total number of cases has now risen about thirteen in the week. Had practical measures been abandoned and protective inoculation substituted, these results would probably not have been obtained.

The Otological Congress.—The sixth international Otological Congress opened on the 8th of August in London, Professor Urban Pritchard being in the chair. There were present some three hundred aurists from different parts of the world. In the course of his opening address the president said: "Although Toynbee was generally acknowledged to be the father of modern otology, for the date of its birth we must go back some 3400 years,¹ to the then flourishing country of Egypt. For Professor Roosa, in his excellent treatise, referred to a certain ancient papyrus (called after its discoverer, the Papyrus Ebers) on which was written a monograph on 'medicines for ears hard of hearing,' and 'for ears from which there is a putrid discharge.' And there, in their museum, might be seen a confirmation of the fact that ear troubles not only existed in those days, but that they could be cured, for they had the good fortune to possess a curious old Egyptian relic, consisting of a wooden tablet on which were portrayed, in bas-relief, two effigies of the sacred bull and two auricles. This was undoubtedly a votive offering to the god Hathor from some 'grateful patient.' In spite of its early birth, however, otology, except perhaps with regard to its anatomy and physiology, did not make itself of great importance until the second half of the present century. The Royal Ear Hospital in Dean street, Soho, which was acknowledged to have been the first successful aural clinique in Europe—and he believed in the world—was established in 1816. But speaking generally, they might safely assert that aural surgery continued to be more or less in the stage of infancy until between 1840 and 1860, when the study was vigorously taken up by Sir William Wilde and Toynbee, who thus gave a fresh impetus to the study of the pathology and treatment of diseases of the ear. Even then its importance was by no means generally recognized. Indeed, only thirty years ago it was a favorite saying of more than one celebrated surgeon that 'ear diseases may be divided into two classes—those which can be cured by any general practitioner, and those which, being incurable, may be relegated to the tender mercies of the ear specialist.' The nineteenth century, which had brought to the world so many wonderful blessings in other directions, had not been unmindful of this branch of medical science. For whereas, at its commencement, the ear was regarded almost as a *terra incognita*, scarcely worth consideration except as the seat of one affection only—that which was generally known as 'a deafness'—now, at its close, this organ was fully explored ground, and had been proved well worth the exploration. Otology had been raised from the rank of pseudo-quackery to an honorable position in scientific surgery, and its importance and bearing upon the body as a whole was now fully recognized."

W. L. BROWN, London, England.

¹ We think the professor might have gone much further back, if he had known the historical facts
—[Editor INTERSTATE MEDICAL JOURNAL.]

NEW YORK LETTER.

The Women's Medical School attached to the New York Infirmary for Women and Children, after a long and prosperous career, was discontinued this year, the managers deciding that the facilities for medical co-education in this city were now all-sufficient for the needs of any woman student. The infirmary, however, is to be continued, and the material will be used for clinical instruction.

Intended Trouble for the Well-Known Bloomingdale Asylum.—A pamphlet, purporting to be an exposure of "criminal practices" at Bloomingdale Asylum, which recently moved to White Plains, New York, has been widely distributed among physicians in this vicinity. The author claims that the officials of this institution and their agents manufacture insane patients for their institution, and have thus far evaded the vigilance of the State Investigating Committee.

He reviews the wonderful progress that has been made in electrical science during the last decade, so that wireless telegraphy and wireless telephoning are now possible. He describes the power of the X-ray in penetrating opaque substances and an "electric gun," by which electricity could be projected so as to stun or kill.

Mr. Orling has discovered a method of transmitting motor power by means of a ray of light, so that it will pass through hills or brick walls and are unaffected by any obstacles. With a very good telescope you could see these rays a long distance and talk through everything. With such a "X-ray" invisible current you could send or throw electricity to annoy people or make people very uncomfortable. You could cause the slightest uneasiness with a mild current, or you could give pain, cause twitchings, soreness like rheumatism, inflammation, if long-continued; these according to the organs you wish to affect. When a galvanic current is passed transversely through the brain, the currents placed upon the mastoid process, dizziness is produced, which begins with the closure of the current and continues during the passage of the current. Reversal of the current with closed circuit doubles the vertigo. Strong galvanic currents sent through the brain also produce co-ordinated ocular movements. Confusion of thought, occipital headache and nausea, or vomiting, sometimes follow the attempts at brain galvanization. Very strong currents have caused fainting and convulsions. Galvanization by currents at the neck will cause drowsiness and vertigo, beginning with the closure and continuing for some time after the opening of the circuit, hyperæmia or fullness of blood, followed by anæmia of the retina in the eye, diminished blood-pressure, frequency of the pulse and a general sense of warmth. The galvanic current increases the force and frequency of the contractions of the heart when the electrodes are placed directly upon the heart. The same occurs when the currents are thrown upon the heart with "their apparatus." There are certain symptoms of insanity that can be produced by electricity (see Liebig and Rohe's Text-Book, pages 145, 186), and the writer claims that this institution causes them continually, and makes

them appear insane. Some hear whisperings which are projected on a current one inch wide, and so cannot be heard by others, etc., etc. Several instances are cited to prove the statements of the writer. The truth of these accusations is yet to be proven. It is quite possible that the author is himself insane. However, there may be an interesting field for investigation open to some inquiring mind.

An office thief is again working among the medical men of this city. Being of such a trustful nature, the medical men of this city seem to fall easy victims. 'Tis the old story of a hurried call; so soon as the doctor is out of sight, the messenger returns and tells the person who answers the door that he will await the doctor's return. The most valuable and portable articles are missed upon the doctor's return.

The New York State Medical Association holds its sixteenth annual meeting in this city next month. There will be much discussion on the many papers to be read on typhoid fever. Dr. W. W. Keen, president of the American Medical Association, will be banqueted by the association. A large attendance and good work is expected.

Small-Pox in Western New York.—This disease has made its appearance in several places in the western part of the State. The health boards are meeting with some difficulty in controlling the spread of the disease on account of the opposition of the ignorant and vicious. It is suggested that the disease gained some headway by mistaking some cases for chicken-pox. In such doubtful cases there should be a quarantine established until the diagnosis is definitely determined.

Danger From Dead Bodies on Railroad Trains.—A suit has been brought against the Delaware, Lackawanna & Western Railroad Company because the station agent at Hoboken refused to accept the body of a child that had died of membranous croup, and would not even allow the undertaker to place it on the train on his own responsibility.

One Hundred and Sixty-two Suicides in Three Months.—The New York Board of Health reports one hundred and sixty-two suicides for the first quarter of the year. Fifty-five were by carbolic acid, thirty-four by shooting, thirty by inhaling gas, seventeen by hanging, the others by stabbing, drowning, taking leaps, etc. Of these one hundred and seventeen were men and forty-five women; sixty-two were natives of Germany, forty-nine of the United States, and the others of different nationalities.

New York's Accomplished Policeman.—George H. Quackenbos, patrolman of New York police force, reads Greek, understands the sign-language, is a good telegraph operator, has filled the chair of rhetoric in Seton Hall, New Jersey, and, lastly, holds the degree of Doctor of Medicine, of the New York University Medical College. He is a son of Professor George W. Quackenbos, professor of Greek and Latin at the De La Salle Institute. When Governor Roosevelt was president of the Police Board he appealed to the educated men to become policemen, and Quackenbos, learning this E. Frankling Smith, M. D., made application and was appointed on the police force.

RAILWAY SURGERY.

Stretchers and Blankets in Railway Surgical Service.—An editorial in the *New York Medical Journal*, August 19, 1899, calls attention to the crying need for a full supply of blankets to be carried on railroad trains for use in cases of railway accidents. While attention has been given to the matter of stretchers by nearly all the large companies, the matter of blankets has seemingly been slighted. Under the present conditions, when an accident occurs, much difficulty is experienced in providing warm coverings for the afflicted, as the ordinary inhabitant of the rural district near which the accident usually occurs is not in a position financially to loan their scanty bed-clothing. It is hardly necessary to state that had this matter been brought to the attention of the companies, the necessary outlay would have been immediately made for the equipment of all trains with a plentiful supply of blankets. As it is, the companies will surely provide such blankets and thus help to save lives which have often been lost through shock due to lack of covering necessary to retain the natural bodily warmth.

Railway Accidents.—The total number of casualties to persons on account of railway accidents during the year ending June 30, 1898, was 47,741. The aggregate number of persons killed as a result of railway accidents during the year was 6,859, and the number injured was 40,882. Of railway employees, 1,958 were killed, and 31,761 were injured during the year covered by this report. With respect to the three general classes of employees, these casualties were divided as follows: Trainmen, 1,141 killed, 15,645 injured; switchmen, flagmen, and watchmen, 242 killed, 2,677 injured; other employees, 575 killed, 13,439 injured. The casualties to employees resulting from coupling and uncoupling cars were: persons killed, 279; injured, 6,988. The corresponding figures for the preceding year were: killed, 214; injured, 6,283.

The casualties from coupling and uncoupling cars are assigned as follows: Trainmen, killed, 182; injured, 5,290; switchmen, flagmen, and watchmen, killed, 90; injured, 1,486; other employees, killed, 7; injured, 212. The casualties resulting from falling from trains and engines are assigned as follows: Trainmen, killed, 356; injured, 2,979; switchmen, flagmen, and watchmen, killed, 50; injured, 359; other employees, killed, 67; injured, 521. The casualties to the same three groups of employees caused by collisions and derailments were as follows: Trainmen, killed, 262; injured, 1,367; switchmen, flagmen, and watchmen, killed, 13; injured, 69; other employees, killed, 38; injured, 367.

The number of passengers killed during the year was 221, and the number injured was 2,945. Corresponding figures for the previous year were 222 killed, and 2,795 injured. In consequence of collisions and derailments 72 passengers were killed, and 1,134 passengers were injured during the year embraced by this report. The total number of persons, other than employees and passengers, killed was 4,680; injured, 6,176. These figures include casualties to persons classed as trespassers, of whom

4,063 were killed, and 4,749 were injured. The summaries containing the ratio of casualties show that 1 out of every 447 employees was killed, and 1 out of every 28 employees was injured. With referenc to trainmen—including in the term enginemen, firemen, conductors, and other trainmen—it is shown that 1 one was killed for every 150 employed, and 1 was injured for every 11 employed. One passenger was killed for every 2,267,270 carried, and 1 injured for every 170,141 carried. Ratios based upon the number of miles traveled, however, show that 60,542,670 passenger-miles were accomplished for each passenger killed, and 4,543,270 passenger-miles accomplished for each passenger injured.

The comparative safety of railway travel is shown by the following statistics recently compiled by a lay journal:

Railroad passengers killed in 1898	-	-	-	47
Lives lost by lightning, January 1 to July 1, 1899,	-	-	-	127
Lives lost in inland waters, January 1 to July 1, 1899,	-	-	-	127
Lives lost in celebrating the Fourth of July, 1899,	-	-	-	144

Treatment of Burns and Other Surface Wounds.—In a recent issue of the *Railway Surgeon*, Dr. G. Archdall Reid states: "I venture to place before the profession a method of treating surface wounds so simple and obvious that I think it must have been tried before. Briefly, I do not place the surgical dressings on the wound, but on a light wire cage or support, which thus, while permitting them to afford protection, prevent them acting as foreign bodies. The wire support is easily manufactured. If the wound be on a flat surface—as the chest—a stout wire of suitable length is bent into such a shape that when placed over the wound it surrounds the latter, but rests everywhere on uninjured tissue. On this wire as basis is woven a wide network of lighter wire, so that a shallow dish of wire work, shaped somewhat like the wound, but larger, results. If the wound be on a limb a cylinder of similar wire work is made in two parts, which is hinged together so that the cylinder may be easily applied to or removed from the limb. The circumference of the shallow dish and the ends of the cylinder are padded by wrapping some soft material—carbolic wool, for instance—round the thick supporting wire. When in place the apparatus may be covered by any dressings the surgeon chooses and is retained in place by strapping or bandages.

"On one detail of the treatment it is necessary to insist with the utmost emphasis, the surface of the wound must be kept absolutely clean. It should be gently sponged daily, twice, thrice or oftener, if necessary, with some mild antiseptic fluid, such as boric acid or weak (1 in 40) carbolic lotion. Otherwise the discharges coagulating on the surface form a cake under which pus is retained and which proves in experience more hurtful than any other foreign body. In order as much as possible to prevent the discharges drying and caking, I usually cover the supporting cage with wet lint, and the whole with waterproof. If, in spite of precautions the lymph does cake, it may be softened by soaking in olive oil and then removed."

Radical Cure for Hernia.—Wills describes and compares the various methods, viz.: when the sac is not removed but used for a stop-gap, or reinforcement (Kocher, Duplay, McEwen); two, when the cord is allowed to remain in the canal, the walls being reformed before and behind by peculiarly placed sutures (Bassini, Lucas-Championniere); and three, entire obliterations of the canal, the cord being lifted out entirely and brought out higher up than the internal ring, through the muscular tissue, and left outside in subcutaneous tissues (Halsted, Fowler, and others). He then gives his own results. In his former series, reported two years ago, he used Halsted's method in all cases but one, and had two relapses. In the present series of fourteen cases he used Halsted's once, Fowler's transperitoneal method twice, and Bassini's method nine times. Two died; the rest have all done well. Each case was treated by the method that seemed best adapted to it. Wills believes that over-preparation of the skin about the groin, by lessening vitality, is responsible for some infection by the white skin germs whose home is in the follicles, and that interrupted s. w. g. sutures draw this down into the wound where moisture and heat favor their exciting suppuration. The subcuticular suture lessens this danger. He does not especially favor the use of rubber gloves, and has had better results since he began, a year ago, to place a rubber drainage-tube in the lower angle of the wound. He admits that this looks like partial aseptic failure, but the result is what is aimed at. The method of operation is a matter of choice, but there is danger in ligating the sac neck in that it leaves a dimple on the peritoneal side, and this receives the impact of the bowels and favors a relapse. He has been in the habit of ligating the sac neck by transfixion with double suture, and with two long ends of the suture, drawing the ligated neck as far up as possible behind the abdominal wall and suturing it there, bringing out the sutures and tying outside of the aponeurosis of the external oblique muscle, fixing the dimple against sound muscular wall, thus preventing downward pressure on it, and bringing a relapse. This plan has served him well. He keeps his patients in bed four to six weeks, and makes them wear a spica bandage for a month or more, but never a truss.—*Exchange*.

The Mexican Central will build a hospital at Aguas Calientes, at a cost of \$130,000. The main building will be two stories high, with a length of 209 feet, and a depth of 85 feet, to be entirely surrounded by a spacious veranda. There will be two large systems of wards, one for American and one for Mexican patients. The entire hospital establishment will cover some two acres of ground.

Fractures of Extremities.—Drs. G. G. Ross and M. J. Wilbert recently reported some interesting variations from existing statistics, viz.: three hundred and forty-nine of these fractures were of the upper extremities, while but one hundred and fifty-one occurred in the lower. Fractures of one or more metacarpals were found in a proportionally large number of cases (51), due both to direct and indirect violence; in the difficulty frequently attending the late examination of these fractures the value of the radiograph was enhanced. They directed attention to pos-

sible fallacy in reading the radiograph in supposed epiphyseal fractures, the normal epiphyseal line being frequently mistaken for a fracture. They take exceptions to the accepted rule that fractures of the shaft of the long bones are apt to be more oblique than transverse; the radiograph shows the contrary to be true.

Railway Traveling in England.¹—A very interesting discussion has been going forward in England on the relative merits of the railway systems of Europe, England, and America. It appears that to Englishmen, traveling in America is rendered arduous and expensive by the cab service which, in New York, is one of the worst and dearest in the world, and where, for example, a person stepping from his hotel into a hansom and driving half a mile is often charged 4s 2d, this being due to a collusion between the hotel keeper and the job master. But even in numbered cabs 2s 1d a mile for the whole distance is the charge. Other difficulties alluded to are the conveyance of luggage, the austerity of the Pullman porter, the noisy newsboy crying hoarsely in the car and selling the latest works of fiction at a profit of from 20 per cent. to 30 per cent., the conductor and his brusque method of dealing with the tickets, and ruthless way of compelling you to order and take food to suit his arrangements.

"Through a sequence of such adventures, and all the time under the relentless jurisdiction of one tyrant or another," says a writer to the *Times*, "you pass the five hours which separate Washington from New York. The express agent will have met you as you near the capital city of the Republic. He demands your checks as a matter of right, refrains from violence, but shows that he thinks himself aggrieved if you do not surrender them. If you decline, you again find yourself in collision with a system. You may keep your checks, engage a cab or hack, give them to the driver, and at the end of fifteen or twenty minutes recover your luggage, and set forth on your journey to a hotel. But the plain truth is that between the railway companies and the express companies there is generally a conspiracy, and it is made as difficult as possible for you to escape the expressman."

It appears that America has to put up with something in railway traveling, just as the Englishman has to-day. The American is obviously at the mercy of the railway companies, just as the Englishman is, but while the bustle and fatigue of travel is minimized in England by the presence of cheap cabs, willing railway porters, and an easy system of dealing with the luggage, the great *bête noire* of England, and of all travelers by rail, is unpunctuality, lateness, delay, uncertainty, which appear to be unknown on the continent of America in connection with trains. It is a common thing for express trains from Scotland to England to be two hours late, and on occasions of extra pressure, as, for instance, during the present holiday time, the midnight express from St. Pancras did not leave until ten o'clock in the morning. In America such unpunctuality would not be tolerated.

The worst feature of railway traveling round the neighborhood of London is the fierce overcrowding of trains; the railway company's servants occasionally put five third-class passengers into a first-class carriage

¹ By our London correspondent.

already full. There is no guarantee, especially in the Suburban lines, that a passenger who has paid his fare and secured his seat is entitled to have the proportion of room he has paid for. It is painful to witness the struggle at the Suburban railway stations for seats in the morning and evening trains; and until the railway companies are compelled to look into this question, the traveling public in England need not boast of their superior comfort. What we demand in this country, but what we do not always get, is punctuality; comfort, civility; and these three seem to be essentials of traveling in all parts of the world. Concerning the last—civility—however, I have not yet met any body of railway servants in any part of the world who show so much attention and civility to passengers as the English railway servant.

The internal derangements of the knee may be classified as follows:

(1) Loose bodies; (2) detachment or displacement of the semilunar cartilages; (3) enlargement with nipping of hypertrophied synovial fringes; and (4) elongation of the ligamentum patellæ. In all these derangements, except the last, it may sooner or later become necessary to open the knee-joint if a radical cure is to be obtained. Walsham believes that the knee-joint may be opened with a freedom equal to that of opening the peritoneum, but likewise an equal amount of care for strict asepsis should be taken in opening the joint as in the peritoneal cavity. He calls especial attention to the five following points: (1) Preparation of the patient, *e. g.*, rest in bed three days to a week previous to operation, with the limb in a splint, regulation of bowels, etc., and careful asepticising of the skin; (2) arrest of all hemorrhage; (3) accurate suture of the synovial membrane and capsule; (4) postoperative absolute rest for the limb; (5) early passive movements and massage. As to the treatment of elongation of the patellar ligament, it is best to transplant it further down the tibia by the use of an ivory peg.

The Tobacco-Pouch Suture.—Doyen has lately been extending the application of the pucker string suture to abdominal surgery, using it on the appendix, intestine, stomach and Douglas' sac after abdominal hysterectomy, and now Quervain, after extensive tests on the cadaver, announces that it is stronger than the Lembert suture and is peculiarly adapted to the peritoneum, when the latter is movable and the opening is of moderate size. The ends can be tucked in and the thread drawn tight like an anus, or the edges can be left out and the stitches taken with longer stretches on the outside, which forms a particularly strong and effectual method of suturing organs invested externally with serosa, such as the intestines and gall-bladder. He is confident that one trial will convince all of the remarkable advantages to be gained from this suture on the peritoneum.—*Journal American Medical Association.*

Dr. George W. Cale, recently appointed chief surgeon of the St. Louis and San Francisco Railway, is rapidly organizing a splendid service, with headquarters at Springfield, Missouri. A large and well-equipped hospital is now in operation at that point.

Dr. Wm. J. Kress, of St. Louis, has been appointed local surgeon of the St. Louis and San Francisco Railway.

MEDICAL NOTES.

Experiments Performed at the Charity Hospital of New Orleans and Elsewhere, with Sanarelli's Anti-Amarylic Serum.—P. E. Archinard, M. D., New Orleans, Louisiana, reports the following:

Early in 1898 we received nearly one hundred 20 c.c. doses of Sanarelli's serum from Monte Video, with the request of the sender that we experiment with the same and report results. In the fall of 1898 yellow fever again appeared in New Orleans, and the opportunity was offered of trying this new agent in yellow fever. The experiments were tried in fourteen cases—eleven cases in the hospital and three mild cases in private practice.

Cases 11 and 12 were two mild cases, but undoubtedly cases of yellow fever with never a very high temperature (102 3-5 maximum); only a trace of albumin; both were children, æt. twelve and fifteen respectively; they were given 20 c.c. of serum each on the second day of the disease, but nothing showed that this has acted in any way to mitigate symptoms or shorten the course of this disease.

From the above cases, which limit our experience with the anti-amarylic serum of Sanarelli as a curative agent in the human being attacked with yellow fever, we are forced to conclude that this agent, in our hands, has shown no curative powers whatsoever. None of the important and dangerous symptoms of the disease having been in any way mitigated, or prevented, by its administration. Our hospital cases, it is true, were severe cases, and in some of them treatment was begun at so late a date as to preclude all hope. However, we have had cases enough, we believe, and the patients' symptoms before and after serum injection have shown so little change as to warrant our conclusion, as expressed above. In justice to Dr. Sanarelli, it must be said that he has never pronounced himself as believing absolutely that his serum was curative in the graver cases; he cautions all users of same that the whole subject is still under study and recommends that this serum be used early. This latter instruction is not always easy to follow, as a diagnosis cannot always be made early. Indeed in early cases of yellow fever, it is difficult to say which are going to be severe and which not; and judging by an experience in this city in the last two years, the great majority of cases are benign and get well under any treatment, and necessarily serum employed at random in these cases would be at a great advantage.

As regards the immunizing property of the serum in the human species, we have no experience and cannot speak with authority.

Experiments performed on smaller animals in our laboratory do not warrant us in entertaining a high regard for its immunizing power.

Malarial Nephritis.—Dr. H. A. Hare, in a recent editorial in *The Therapeutic Gazette*, states that the medical profession is gradually learning from increasing experience that, in the great majority of instances, nephritis is a secondary process set up by some diathetic or infectious condition which may be considered its true primary cause;

that no one can afford to urge the universal employment of quinine in all cases of malarial infection, whether they be hematuric or not; neither can he exclaim in favor of total abstinence from quinine in such cases.

We are accustomed to recognize the fact that scarlet fever, for example, is peculiarly prone to produce changes in the kidneys, that diphtheria may result in degeneration of the nervous mechanism controlling the heart, and that rheumatism seems to have a particular affinity for the cardiac valves. More recently it has been found that in a large number of instances typhoid fever manifests its primary effect upon the lungs and kidneys, and in some instances may leave the glands of Peyer or the solitary glands of the large intestine entirely untouched. Further, that the bacillus of Eberth may be found in vegetations upon the cardiac valves, in the kidney, and in various other portions of the body where, until recently, it was not supposed to be present. Still more recently the belief of some of the older clinicians, that malarial infection was capable of producing serious changes in the kidneys, has been receiving confirmation through more accurate and scientific observations, and the writings of Osler and Thayer at the Johns Hopkins Hospital have done much towards illuminating this heretofore little understood subject. Aside from Dr. Thayer's well-known contribution upon the relationship of malaria and nephritis, he has recently read before the New York Academy of Medicine still another paper, in which he expresses the view that malarial nephritis is very much more frequent than has usually been thought, and makes the interesting statement that the frequency of albuminuria in the estivo-autumnal fevers is almost as great as it is in diphtheria; reiterating, also, his earlier statement that in 768 cases of malarial fever admitted to the Johns Hopkins Hospital, albuminuria was present in 44.6 per cent. and renal casts in 16.4 per cent.; indicating, therefore, that the albuminuria was in all cases due to congestion or other conditions in the kidney. Further than this, Dr. Thayer believed that the renal changes appear to be due to the direct result of damage to the kidneys inflicted during the elimination of toxic substances.

Calentura vs. Yellow Fever.—C. H. Tebault, in the New Orleans *Medical and Surgical Journal* for September, 1899, gives the differential points between yellow fever and "calentura," which is a term applied by Cubans to a specific fever which exists in Santiago de Cuba, and which caused such a scare among the American troops after the surrender of the above city. The disease presents so many symptoms in common with yellow fever, that a severe case of calentura associated with jaundice may be very easily confounded with an ordinary case of yellow fever. In calentura ordinarily the fever is of two and a half days' duration, and, in the majority of cases, is preceded by a morning chill. The initial temperature is usually quite high—103° to 105° F.—and the pulse begins to fall much sooner than in yellow fever, and remains slow for a longer period. Calentura differs from yellow fever most prominently as follows:

1. The initial temperature is higher.
2. Chill usually comes in the morning.
3. Pulse becomes slow earlier in the disease.
4. Prolonged debility rather than "calm" or collapse.

5. Gastric irritability very slight.
6. Jaundice less common.
7. Albumin absent or in traces.
8. Liver increased in size.
9. No secondary infection.
10. Bleeding of nose common, but other hemorrhages rare.
11. Tendency of attack to recur every three or four months among foreigners, and once or twice a year among natives.
12. The ridiculous fatality.
13. The rapid spread of the disease.

The writer lays great stress upon the gastric symptoms and upon the absence of albumin from the urine. A great source of difficulty in the diagnosis is the occurrence of both diseases at the same time in a community. Yellow fever often travels in the wake of the more active calentura. The writer thinks that in the scare of 1897 at Ocean Springs, New Orleans, and elsewhere, the real disease was this self-same calentura accompanied by a generous sprinkling of true yellow fever in its path.

Cerebro-Spinal Meningitis with Ulcerative Endocarditis and Abscess of the Myocardium.—(By L. N. Boston, *Medical Record*, September 2, 1899.)—This writer cites a case of epidemic (?) cerebro-spinal meningitis accompanied with ulcerative endocarditis and abscess of the myocardium. The patient manifested symptoms referable to meningeal trouble and passed into a comatose state from which he never emerged. At the necropsy it was found that he had a purulent meningitis cerebro-spinalis, together with ulcerative endocarditis and an abscess 1 cm. in diameter extending well into the wall of the auricle on the left side, reaching the base of the mitral leaflets. Cultures taken from the meningeal surfaces, the eroded endocardium, and the myocardial abscess showed the diplococcus intracellularis meningitidis. Subsequently, five minims of a twenty-four hour bouillon culture injected into a white mouse produced death. Necropsy upon this animal showed a small abscess at the point of inoculation, but no other changes in the body. A guinea-pig was fed upon broth cultures of this micro-organism, but failed to react.

We should venture the suggestion that the death of the animal might possibly have been due to the inoculation of a contaminated bouillon culture, for from personal experience we know that it has been impossible time and again to inoculate animals with epidemic cerebro-spinal meningitis unless the culture of the diplococcus intracellularis be injected directly into the meningeal spaces. This is in accord with the observations of other investigators. The fact that a minute abscess was produced at the site of inoculation speaks against the possibility of its having been produced by the diplococcus intracellularis, for in our experiments and in all others on record we find no mention of the diplococcus intracellularis as a causative factor in the production of localized abscesses in tissues.

S. Case Jones, in the *Medical Review of Reviews*, August 25, 1899, reviews the subject of the prevention of bovine consumption and the measures for lessening the infection and spread of tuberculosis. He says that

the obstacles in the way of a complete or progressive eradication of bovine tuberculosis are:

1. The ignorance of cattle owners and their indifference to the dangers that arise from keeping diseased and healthy animals together as well as bigoted opposition to any interference with "personal right."

2. The enormous expense of undertaking any wholesale destruction of diseased animals. The State would have to pay the owners of said animals and would have to pay veterinarians to examine same. Therefore, for the proper restriction of bovine tuberculosis in a State or province, legislation of this kind is recommended:

1. Provide means, by proper laws, of giving State or Provincial Boards of Health the authority to investigate concerning the existence and cause of tuberculosis in cattle, and the danger to the public health therefrom, giving such boards the power to apply the tuberculin test to any animals in the State for the purpose of diagnosis, of quarantining all tuberculous cattle, or causing their destruction.

2. Extending the powers of the State board to local boards of health, by instructing them to pass local ordinances requiring that any milk or dairy product which shall be sold or offered for sale in any municipality shall be from herds that have been examined and tuberculin tested by a competent veterinarian having authority from the State Board of Health, who shall certify that the herd supplying the milk or dairy product is free from all disease.

3. Make a law prohibiting the importing into the State of any cattle for dairy or breeding purposes until they have passed the tuberculin test.

4. Require by law the slaughter of all fat or beef cattle which are to be sold for food at a public abattoir, and under competent State inspection, both ante- and post-mortem, putting a tag on each carcass, setting forth the date of inspection and slaughter, the quality of meat, and the name or number of the licensed inspector. Said abattoir inspectors to be appointed and licensed by the State Board of Health.

A Fatal Case of Poisoning by Crystals of Permanganate of Potassium.—

Dr. Charles R. Box (*The Lancet*, August 12, 1899) records a case of potassium permanganate poisoning. A married woman of forty-seven years, after drinking heavily, swallowed a handful of crystals of potassium permanganate and died within thirty-five minutes. At the necropsy, nothing pathological was found as a consequence of the action of the poison except a slight edema of the glottis and a hyperemic condition of the gastric and upper intestinal walls. Death was ostensibly due to failure of the heart owing to the rapid absorption of the poison and its action on the cardiac ganglia.

THERAPEUTICS.

Collateral Influence of Drugs.—In the study of the action of drugs it is the duty of the physician not only to regard with care the effect of the remedy upon the organs which meet its influence, but also to study the effect upon those organs which receive it when it is first taken, and those which eliminate it from the body after it has performed its function.

It is our duty to remember that nearly all infectious diseases exercise their malign influence upon more than one portion of the body, and in the treatment of these affections to use remedies with sufficient caution to gain all the benefit possible from their specific influence without causing at the same time damage to other parts by reason of a collateral influence of the drug employed.—HARE.

Note on Twelve Cases of Epileptic Insanity Treated by Means of Bromide of Strontium.—Smith (*The Lancet*, August 12, 1899) gives an account of his treatment of twelve cases of epileptic insanity with bromide of strontium. These twelve cases were selected after having been treated at various times with different drugs, borax, arsenic, etc. They were under observation during 1898, when they were treated with bromide of potassium. All treatment was stopped for four weeks, and then they were put on strontium bromide. The plan followed was to begin with fifteen grains three times daily, and to increase this amount, at intervals of one week if necessary, to twenty grains, and then to thirty grains and forty grains three times daily until the seizures were under control. In one instance only was it necessary to go beyond forty-five grains, and then the patient became stuporous and unsteady in gait, but without any abatement in the number of seizures.

These cases were all tabulated. In four cases it was seen that practically no indication of the superiority of either drug could be detected. In five cases bromide of strontium seemed more appropriate than bromide of potassium, and in three cases the latter was distinctly more beneficial than the former. Again, taking the cases collectively and reducing the results to chart form, bromide of strontium seemed to give better results than bromide of potassium, the total number of fits being diminished; but there are certainly certain points in favor of bromide of potassium. As regards the reduction in the total number of fits, the evidence was in favor of bromide of strontium. A larger dose of bromide of strontium than of bromide of potassium was required to control the fits. The largest amount of bromide of potassium as an average dose was twenty grains, while it was necessary to give an average dose of thirty grains of the bromide of strontium to produce the same results. The bromide of potassium seems to exercise its effects more quickly than the bromide of strontium. The good effects of the bromide of potassium seemed to be more lasting than those of the bromide of strontium.

It would seem, therefore, that whilst bromide of strontium is in some cases apparently of greater value than bromide of potassium in controlling

epileptic seizures, yet on account of the more rapid action of the latter and its more lasting effects, the smaller dose required, and, lastly, its cheapness, bromide of potassium must be regarded as the more generally useful drug in the treatment of epilepsy.

An Inoperable Case of Epithelioma of the Larynx and Neck Treated with Formalin Injections.—McFeely (*Brit. Med. Jour.*, July 29, 1899) reports a case of epithelioma of the larynx and neck treated with formalin injections. The case was an inoperable one, and was subjected to this treatment after all hope of doing anything for the patient in any other way had been abandoned. Formalin in thirty per cent. solution was used, from ten to twenty-five minims being injected daily. The vascularity of the neoplasm was so great that profuse hemorrhage followed after the performance of the first injection. This vascularity seemed to diminish with further injections, and, in fact, the tumor actually seemed to undergo disintegration. The case, however, succumbed after about one month's treatment, death being due to asphyxia from the presence of the new growth in the neighborhood of the larynx. At the necropsy it was found that the tumor showed areas of necrotic disintegration at places corresponding to the sites of injection of the formalin solution. The following conclusions seem to follow from this case:

1. Up to half a drachm of pure formalin can be injected into the body without the production of any toxic symptoms.

2. Although a powerful styptic, it does not seem so liable as other styptics to produce clotting or embolism.

3. It is probably as safe to use formalin undiluted as diluted with water.

4. When used undiluted it seems to produce an anesthetic effect more quickly.

5. Unlike most other powerful antiseptics or irritants, it does not stimulate, but retards cell multiplication or growth in malignant tumors.

The writer seems to think that formalin should prove an ideal method of treatment for malignant growths if we could accept the assumption that they are due to the presence and action of some low form of organic life, as has been suggested by many writers.

Syphilitic Disease of the Stomach.—Dalglish (*The Lancet*, August 12, 1899) speaks of the failure on the part of most physicians to look for disease of the stomach of a syphilitic nature. He says that we are prone to regard every skin manifestation, every nervous manifestation, and every strictly localized process in the lung as evidences of possible syphilitic disease, and yet when patients come to us with histories of a past syphilitic infection and with symptoms pointing to some affection of the stomach, we rarely even give a thought to the possibility of a direct syphilitic affection of the stomach. He narrates three cases in married women past middle life where symptoms pointed to malignant disease of the stomach, and under appropriate anti-syphilitic treatment the condition of all these patients greatly improved.

SURGICAL SUGGESTIONS.

Operative Treatment for Cancer.—Knowing that cancer is curable if totally extirpated, and knowing that it is fatal if not totally removed, I have arrived at the following method of dealing with patients who seek aid from me when they are afflicted by a cancer:

1. When the disease is clearly curable and the danger slight, then I feel it my duty to urge the operation, and insist on an immediate performance of the same, and represent the prospects of a cure as highly probable.

2. When there is considerable involvement of the lymphatics I do not strongly urge the operation, but tell the patient that the chance of a cure, though small, still exists, and, in fact, feel it a duty to make the attempt at a radical extirpation.

3. When the danger of an operation is very great, but where I still think the removal of all involved tissues can be completed (I mean by that where the operation is anatomically thinkable), I present the grave dangers of an immediate death on the operating table, and though holding out but little hope of a cure and only a probable prolongation of life, I still give enough encouragement to inspire the patient with some expectation of being benefited. As a rule, I find that these patients will decide to have the operation done.

4. Finally, in anatomically impossible cases, I do not think it is justifiable to refuse to operate in some fashion if, after knowing the truth as to the hopelessness of the condition, a patient demands that an operation be done. In these cases the psychical effect of even an imperfect partial removal of the offensive cancer is very beneficial, and puts off for months the inevitable morphine syringe which we are compelled to use during the last weeks.—*A. C. Bernays.*

Fibroids of the Uterus.—Electricity has had its day; medicinal treatment has not been followed by results promised and, after the patient has gone the rounds, she comes to the operator to apply the knife. The indications for operation should be: (1) Rapidity of growth; (2) hemorrhage; (3) general discomfort of the patient. The technique of the operation, and the selection of the operation, must necessarily be in accordance with the particular growth and choice of the operator. Amputation and fixation of the stump to abdominal wall has, up to the present, in my hands, given the best results. No hernias have been reported to me; no dragging on the abdominal wound has occurred. And while in the majority of cases it has been practiced by me, I have of late done several total hysterectomies, and have lost my first patient. She died of sepsis, and was probably infected through the vagina, though the utmost care was taken to avoid this; but the bad result came, nevertheless.—*Dr. W. B. Dorsett.*

Removal of Blood Stains from Clothing.—Dr. J. T. Rugh, in the *Philadelphia Medical Journal*, recommends hydrogen dioxid for removing blood stains from clothing. It should be used full strength, and after oxidation

has ceased it should be wiped off and another application made. If hot water has been used or anything which will coagulate the albumin, the dioxid will not act favorably. Dr. Rugh states that he has never seen clothing bleached by this application for removal of blood spots.

Kennan (*British Medical Journal*, July 29, 1899) narrates a case of obliteration of the male urethra, with a perineal urinary fistula and a phagedenic sloughing of the end of the penis. The obliteration was complete. A definite history of the case could not be obtained. It seems to be a matter of fact that before complete obliteration of the male urethra can take place there must be formed a fistulous tract, usually through the perineum, by which the urine may escape from the urinary bladder. Even though such a fistulous tract does exist and is perfectly patulous, the obliteration of the urethra does not immediately follow. The urethra resists obliteration for a long time, even though an opening for the passage of urine exists in another place *e. g.*, the perineum.

Extraction of Ligatures from the Bladder.—Murray MacLaren (*British Medical Journal*, July 29, 1899) cites a case of the passage of ligatures through the bladder wall one year and eight months after the performance of an operation for pyosalpinx. During the operation many silk ligatures were applied across the broad ligament on account of the difficulty in raising up the tubal abscess from the pelvis. The silk ligatures came through the bladder wall in about the same place. They were encrusted with calcareous deposits and caused symptoms of mild cystitis. Cystoscopic examination showed them to be attached to a point on the right side of the bladder wall. The first three ligatures were passed through the wall and were extracted from the bladder by means of a pair of Turck's laryngeal forceps. The condition of the patient improved and now she is in perfect health. All symptoms of cystitis have disappeared.

Arsenical Pigmentation of the Skin Simulating Addison's Disease.—Enriquez and Lereboullet (*The Lancet*, August 5, 1899) describe a case of arsenical pigmentation of the skin simulating Addison's disease. The patient consulted the writers for an eczematous eruption about the feet and ankles and he was put on Fowler's solution, sixteen drops daily. After taking, this treatment for about two months, he began to notice pricking and congestion of the conjunctivæ. The skin then became black in spots. He complained of lachrymation and dryness of the throat. The tinting of the skin, the slight asthenia, the progressive wasting, etc., led these practitioners to diagnose the case as Addison's disease, and they continued the Fowler's solution. The use of suprarenal substance was also recommended. The patient became more bronzed and wasting ceased. More minute examination led these practitioners to change the diagnosis to chronic arsenical poisoning on account of the spotted character of the eruption, the relative immunity of the hands and feet, and the lesser degree of genital pigmentation. The use of the drug was stopped and amelioration followed. This case illustrates a special predisposition on the part of the cutaneous system for arsenic.



The Hygiene of Transmissible Diseases. Their Causation, Modes of Dissemination, and Methods of Prevention. By A. C. ABBOTT, M. D., Professor of Hygiene and Bacteriology, and Director of the Laboratory of Hygiene, University of Pennsylvania. Illustrated. Philadelphia: W. B. Saunders, 1899.

Abbott has given us a work which fills a long-felt want—*i. e.*, a discussion of the modern ideas as to the etiology of the common transmissible diseases in close relationship to a discussion of the same diseases from a sanitarian's point of view. Although the book is virtually but a chapter of general hygiene, that single chapter truly deserves its discussion in an entire volume. The subject of the prevention of the spread of transmissible diseases is most important to us just now. Particularly are we interested in the future of a hygienic study of tuberculosis. We realize only too well that the stamping out of that dread disease depends, not so much upon a discovery of some wonderful remedial agent, as some would have us believe, but upon the corralling of the disease by hygienic measures and bringing about its extermination in that way. And so it is with the other transmissible diseases. The author of this book has indeed invaded a territory that has not yet been overloaded with multitudinous discussions, and he has done his work well.

Minor Surgery and Bandaging. By HENRY R. WHARTON, M. D., Demonstrator of Surgery in the University of Pennsylvania. New (4th) edition. In one 12mo volume of 594 pages, with 502 engravings, many being photographic. Cloth, \$3.00, *net*. Lea Brothers & Co., Philadelphia and New York.

This work has been used almost universally in the different medical colleges of the country, and the new edition will be generally welcomed. Considerable new matter has been added, including chapters on "Surgical Bacteriology" and "Operative Procedures upon the Cadavers."

The Mechanics of Surgery. Comprising Detailed Descriptions, Illustrations and Lists of the Instruments, Appliances and Furniture Necessary in Modern Surgical Art. By CHAS. TRUAX, Chicago, U. S. A., 1899. For sale by book dealers or Truax, Green & Co., Chicago. Price, \$4.50.

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This is the second edition of this handy manual, and is just from the press. Blank pages are frequently introduced, so that a handy place is furnished for recording any new prescription that one might wish to preserve. The printed index will index all such pencilled additions, if care is taken to write them opposite a page with a formulæ for similar disease; this would then save the bother of indexing the pencilled additions.

Kyle on the Nose and Throat. Diseases of the Nose and Throat. By D. BRADEN KYLE, M. D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia; Consulting Laryngologist, Rhinologist, and Otologist, St. Agnes' Hospital. Octavo volume of about 630 pages, with over one hundred and fifty illustrations and six lithographic plates.

The work before us is a most exhaustive study of the nose and throat, and, representing as it does the most advanced thought upon the subjects it treats of, makes it a production of great value. The plates are excellent and by far (to our opinion) the most skillfully executed in any work of the kind. Every subject relating to the diseases of the nose and throat and their treatment has been made an exhaustive study and compiled in an entirely new form which is pleasing, and we can assure the author and publisher that the book will be a great success.

NEW REMEDIES.

Hypo-Quinidol (Gardner) in Treatment of Malarial Fever.—The following reports are taken from the official records of the St. Louis City Hospital:

CASE 1.—Thomas Wilson, æt. nineteen; born Illinois; laborer; single; present home, New York House; admitted to hospital February 4, 1899.

Family History.—Maternal uncle died of "Grinders' Consumption."

Previous History.—Had typhoid fever five years ago; malaria for first time last fall, while patient resided in Arkansas; had the several types at that time. Off and on since then has been troubled with recurring attacks. Night-sweats last fall. No venereal history; no history of epilepsy.

Present Trouble.—Began February 1, 1899, with chill followed by fever and sweating; this was repeated for the next three days, the chills coming on about one hour earlier each successive day. Patient states that when given quinine an eruption appears on the arm and body. It sometimes causes, as he states, "a quinine fit." In support of this we can say that one hour after giving him 30 c.c. of quinine, he suddenly became dizzy, nauseated and weak, his ears were roaring, his head felt distended, he fell to the floor, but was not unconscious. He was pale, weak and highly excited, vomiting began and continued for an hour. Bowels costive, tongue coated, weakness and anemia present.

Physical Examination.—Feeble respiratory murmur all over chest; heart negative; spleen enlarged.

Urinalysis.—Light straw color, acid reaction, specific gravity 1016, no albumin, sugar, bile or casts.

Specimen of blood from patient reveals plasmodium of the estivo-autumnal type, a relative leucocytosis and poikilocytosis. The percentage of hemoglobin, 47.5 per cent.

February 12th.—Plasmodium has disappeared from blood, the erythrocytes are no longer distorted. Percentage of hemoglobin, 65 per cent.

February 15th.—Blood specimen shows no plasmodium and is otherwise physically normal. Percentage of hemoglobin is 87 per cent. Patient is practically well, having no chill since the 8th inst.

February 19th.—Blood free from plasmodium; hemoglobin, 90 per cent. Patient is on iron and strychnine in addition to hypo-quinidol (Gardner). He is practically well and requests his discharge.

This patient stated that he had been treated for malaria at the Charity Hospital at New Orleans for eight months previous to coming to St. Louis, quinine having been used, and in every instance in which it was used marked signs of cinchonism were produced, as was the case when quinine was used at this institution.

Diagnosis.—Malaria, quotidian.

Treatment.—Hypo-quinidol (Gardner), two to four grains every two or three hours.

CASE 2.—Fred Peterson, æt. thirty-four; born in Denmark; plasterer; single; no home; admitted to hospital February 8, 1899.

Family History.—Negative.

Previous History.—Patient was with army in Cuba and contracted malaria after returning to the States. Has had chills and fever off and on since August. No venereal history.

Habits.—Sprees occasionally, chews tobacco.

Present Trouble.—Began February 6th with chill, followed by fever and sweating. This was repeated for next two days.

Physical Examination.—Spleen enlarged, liver in normal position.

Urinalysis.—Negative.

Blood Examination.—Tertiary type of plasmodium found.

Diagnosis.—Malaria, quotidian.

Treatment.—Hypo-quinidol (Gardner), thirty grains daily in divided doses.

February 10th.—Feels much improved; requests to be discharged.

Patient did not remain long enough to get any positive evidence of his entire recovery, excepting that second examination of the blood did not reveal any plasmodium.

CASE 3.—B. D., æt. forty-eight; born in Belgium; laborer; single; present home, Third and Plum; admitted September 2, 1899.

Habits.—Good.

Family History.—Several of his family died of small-pox, family history otherwise good.

Previous History.—Had usual diseases of childhood, such as measles, scarlet fever and whooping-cough; troubled with rheumatism for last ten years; denies any venereal disease, but has for the last five years had to get up at night and urinate five and six times. When he lifts anything heavy there appears an indirect inguinal hernia on left side. No history of any disorder of lungs, vascular system, digestive system, liver, spleen or pancreas; does not give any history of any disease of the nervous system.

Present Condition.—Has been having chills for the last six weeks, these occurring every other day; during the past week chills every day; complains of pain along sciatic nerve, and at present is annoyed with a profuse diarrhœa. States that he has been using quinine during the above named period without any effect.

Physical Examination.—Respiratory tract normal, heart apparently normal, pulse rather weak but regular, arteries show no sclerosis or atheroma. Digestive tract: stomach apparently normal, there is evidence of a slight enteritis, spleen somewhat enlarged, liver dullness normal, no evidence of œdema on any part of the body or extremities. Nervous system normal.

Urinalysis.—Slightly cloudy urine, specific gravity 1022, alkaline reaction, slight precipitate of urates and phosphates, no albumin, sugar, or bile present, no casts.

Blood Examination.—Plasmodium malaria found in blood.

Diagnosis.—Quotidian malaria.

Treatment.—Hypo-quinidol (Gardner), tonics.

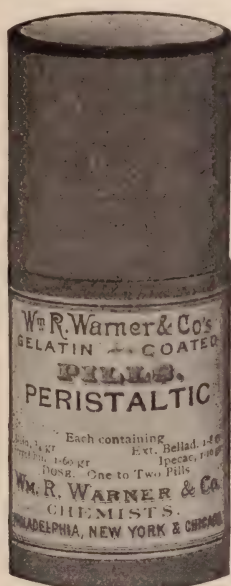
On September 9th, patient has not had any chill for several days;

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claims to have used quinine before coming to the hospital without any effect. Quinine was given here at hospital for several days, but chills still continued. After changing the treatment to hypo-quinidol (Gardner), four pills five times daily, chills failed to occur and patient feels much improved. On September 14th, examination of blood failed to reveal any plasmodium present. On September 15th, patient still taking hypo-quinidol (Gardner), is feeling very well and has not had any chill to-day. September 16th, examination of blood does not reveal plasmodium; patient is practically well, doing detail work.

CASE 4.—Geo. C., æt. forty-two; born in Missouri; laborer; single; present home, 901 Market street; admitted July 25, 1899.

Habits.—Drinks with moderation; smokes, but does not chew; regular at meals, and takes proper sleep; does not indulge in venery to excess.

Family History.—Negative. *

Personal History.—Has been at hospital several times, once with stricture and once with fever.

Present Trouble.—Began last Thursday, felt bad, dizzy and sick at stomach, and had a headache; the next morning had a chill, which lasted thirty minutes, followed by fever and sweats. Was comparatively well until Tuesday, when he had another chill in morning, as before; fever lasted somewhat longer, about three hours.

Present Condition.—Feels pretty good, appetite good, no fever, slight cough, no pain anywhere noticeable.

Examination.—Inspection reveals well-made man, five feet six inches in height, and of moderately good intellect; no abnormal manifestation noticed on body, palpation negative, percussion normal, pulmonary resonance over thorax, both anterior and posterior. Auscultation reveals nothing abnormal. Spleen is not perceptibly enlarged and not tender to palpation.

Urinalysis.—Alkaline reaction, cloudy, heavy precipitate of ammonium urates, no albumin, sugar or casts.

Examination of blood revealed plasmodium malaria present. Quinine did not produce any relief in this case. Hypo-quinidol (Gardner) was substituted, and during its administration no vomiting occurred. Second examination of blood showed that the plasmodium had disappeared after the administration of the hypo-quinidol (Gardner).

Diagnosis.—Malaria.

Treatment.—Quinine, tonics, and hypo-quinidol (Gardner).

Prognosis.—Good. July 31st much improved, and requests to be discharged.

CASE 5.—J. B. T., æt. thirty-five; born in Ohio; three years in St. Louis; laborer; single; present home, Columbus House; admitted July 25, 1899.

Habits.—Is a telegraph operator; does not chew, drink or smoke; morally, habits are not very good.

Family History.—Father and mother died of heart trouble, suddenly; has one brother who has heart trouble; one sister died of typhoid, one died of phthisis (?).

Personal History.—Measles, mumps, scarlet fever, diphtheria; rheumatism when eight years old, joints swollen and fever, same lasted off



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and on for four years; used to get out of breath very easily, and had palpitation of heart; as he grew old, heart did not bother him so much. One and a half years ago the present trouble began; had chills every other day, chills sometimes lasting from two to three hours, followed by fever that usually lasted from four to five hours, then profuse sweats. These attacks lasted sometimes for a month at a time. For last year and a half he has never been free from chills, etc., for over one month at a time. Patient has been treated for malaria at St. John's Hospital, of this city. Has resisted all kinds of treatment. While the fever is in progress, patient often has severe pains in heart; has been picked up off the street unconscious, as result of these severe cramps of heart. At present every bone in body aches, becomes delirious after chill, temperature reaching 104°. Yesterday, fever lasted at least twelve hours.

Examination revealed a very intelligent man, face red, eyes bright, no sign of cachexia, skin at present very moist, chest well developed, few rales over base of lung, spleen enlarged, apex beat, about normal, pulse full and throbbing, digestive apparatus in fairly good condition, first sound of heart roughened.

Urinalysis.—Brown-yellow, specific gravity 1030, no albumin, sugar or casts, alkaline, heavy precipitate of phosphates.

Blood examination revealed plasmodium malariae in great numbers.

In the above case quinine was used very energetically and without effect. The above record shows that hypo-quinidol (Gardner) acted promptly.

Diagnosis.—Malaria.

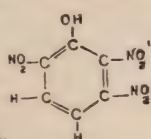
Treatment.—Hypo-quinidol (Gardner), and tonics. July 29th, very much improved; wants to be discharged; request granted.

The above cases were given from three to four two-grain pills of hypo-quinidol (Gardner), four or five times daily—from eighteen to forty grains.

The following important points were noted: Hypo-quinidol (Gardner) was administered with gratifying results to patients who were unable to take quinine sulphate. The combination of quinine with the oxidizing agent, phosphorus, as presented in this remedy, did not cause any of the untoward effects so often resulting from the administration of quinine sulphate. The percentage of hemoglobin increased rapidly under its use. The specific action against the plasmodium malariae was more rapid than that of quinine sulphate. Other equally important facts will be readily perceived by a careful study of the above cases.

A New Dermato-Therapeutic Agent of Worth.—(By A. H. Ohmann-Dumesnil, A. M., M. D., Ph. D., etc., St. Louis, Missouri; Professor of Dermatology and Syphilology in the Marion-Sims College of Medicine, St. Louis; Author of the "Hand-Book of Dermatology;" Editor *St. Louis Medical and Surgical Journal*.)—Among the new preparations which have been introduced to the medical profession is to be mentioned kestin, a name which has been applied to a combination which offers great promise of becoming a valuable member of the physician's armamentarium. It is adapted to both internal and external use and really possesses many good qualities. Kestin is a clear, stainless, greenish-colored liquid, having a slightly alkaline taste and an

agreeable odor. It is freely miscible with water to any desired strength. It is powerfully antiseptic and yet non-irritating. It is furthermore a very active keratoplastic agent and has the property of rapidly reducing inflammation. This product consists of gamma-trinitrophenol combined with resorcin, ammonium chloride, orthoboric acid, and formaldehyde. The most active ingredient in the production of the good effects found following the use of kestin is the gamma-trinitrophenol, whose rational formula is:



seems to as its ac- to enter those path- used are already too numerous to include within the limits of a short paper.

It is a most difficult compound to produce and possess quite superior therapeutic qualities so far as its action on the tissues is concerned. I do not propose here into a complete investigation of these, as those pathologic conditions in which it has been successfully

used are already too numerous to include within the limits of a short paper. Some of the therapeutic properties may be judged better by the following few cases in which it was employed with success. They are a few out of a number, and are given merely to show the wide range of application which this preparation possesses. The cases have not been selected, but were such as came for treatment in the ordinary course of practice. The only selection made has been in respect to the nature of each, an endeavor being made to have different conditions in order to test the efficiency of the remedy. The following are short accounts of these cases:

CASE 1.—John B., forty-eight years; married; had been suffering for two years with eczema of the scrotum. Upon examination the integument was found to be enormously thickened, with deep furrows running through it and sensitive to the touch. There also existed numerous excoriations, due to scratching. The patient complained of an intolerable itching which existed day and night, but more marked at the latter time. He had seen a number of physicians who had prescribed different lotions, ointments and powders, but none had done more than afford him but a slight relief temporarily. He stated that any form of ointment was particularly irritating to him. Under these circumstances I ordered kestin to be applied four times daily, and a dressing moistened with it kept about the scrotum. After five days of this treatment the patient called to report that he felt better, and, upon examining the affected part, I found the integument of the scrotum looking much better. All the itching had disappeared. He was ordered to keep up the treatment for a week longer. After this the kestin was merely applied four times daily, and in two months the trouble was cured. It may not be inappropriate to state that internal treatment was also given in order to hasten the curative process.

CASE 2.—Eliza T., a girl of eighteen, in trying to lift a kettle of boiling water from off the stove had it turn in her right hand. The result was that the scalding water fell on her left forearm, which was bare at the time. I saw her about a half hour after the accident occurred. After removing the flour which had been applied to remove the pain, I noted that the lesion was a burn of the first degree. A large, ovalish space, two and one-half inches wide and about six inches in length, red and angry-looking, and presenting that peculiar raw look characteristic of burns of the first degree, was presented. Kestin was freely applied to it, and dressings moistened with this preparation ordered to be continuously applied and

kept moistened with the same. The next day the patient informed me that she had experienced no pain and had slept well. On the third day the dressings were removed and the epidermis was regenerating. In five days the burn was practically healed. The keratoplastic action of kestin was well shown in this case, and was rapid as well as marked.

CASE 3.—Frank O., a married man of forty-two, applied for the treatment of so-called parasitic eczema of both legs. He stated that he had been affected with the trouble for several months, and that ordinary measures had proven unavailing. He had been prescribed for and used solution of acetate of lead, hamamelis, ichthyol ointment, and some other preparations of whose composition he was ignorant. Upon examination of his legs I found a rather marked erythema present. Scattered excoriations due to scratching could also be seen. Very fine miliary papules were distributed throughout the integument in a marked aggregate form. Altogether the eruption presented a rather angry appearance. No exudation was present, nor had any pustules manifested themselves. The integument was somewhat thickened and leathery to the feel. The treatment consisted in prohibiting the use of water externally and applying freely kestin twice a day, permitting the application to dry. I did not see the patient again for three months, he having left for his home directly he had obtained the medicine. When I saw him again, he informed me that all traces of his trouble had left him in a week, and had not recurred since.

CASE 4. — James H., single, aged thirty-seven, had been unsuccessfully treated for his trouble which steadily spread. He had a marked perifolliculitis, pustular in character, which had invaded both legs, including the lower third of the thighs. As is the case with this trouble, each pustule, about the size of a pin's head, was pierced by a lanugo hair. The pain and itching were excruciating. In addition to the parts mentioned, the left arm and forearm were involved. Inquiry revealed the fact that the trouble began on the right leg. The patient scratched the implicated surface, and thus spread the infection. He scratched the other leg and the left arm, and in this manner spread the infection to the skin of those parts. The itching was so intense and continuous that he could neither rest nor sleep. Compresses kept moistened with kestin were ordered in this case. This treatment was kept up for five days. Itching had almost entirely ceased. The compresses were discontinued, but free applications of the same preparation were ordered to be made four times daily. The patient now felt comfortable, and in three weeks after the inception of the treatment he looked upon himself as cured. Two applications daily were then ordered as a precautionary measure, to guard against any possible relapse.

CASE 5.—Fred P., aged thirty-four, well built and of strong physique, complained of much worry caused by a constant, small mucous discharge from his penis. At times the discharge would assume an opaque appearance. Various subjective symptoms, such as a slight warmth in the tract of the urethra, uneasy sensation at the meatus, etc., manifested themselves. The patient stated that he had contracted a gonorrhœa quite some time before, but that it had been cured. He acknowledged having had the disease a number of times. Examination showed the trouble to be a chronic gonorrhœa. The meatus and urethra had been irritated by

the introduction of sounds. Attempts had been made to produce an acute inflammation in the hope that when it was cured the chronic condition would go with it, but this failed. I ordered an injection of equal parts of kestin and water to be taken four times daily for two days. This was then made in the strength of one to three, then one to four, and finally one to six. In two weeks the trouble was well. Nor has a recurrence taken place since.

Such are the histories of a few cases which present diverse conditions. No attempt has been made to detail the internal treatment given in some of the cases, as it was of the simplest, and could have none but a small adjuvant action. Several points will be noted as demonstrated so far as the action of kestin is concerned. In the first place, it is non-toxic. It is pre-eminently germicidal. It is also a good reducing agent in all that term applies. It is keratoplastic in no small degree. One of its chief qualities, and one which will recommend it to the favorable consideration of all, is its rapidity of action. In addition to this, it would appear to possess the peculiar property of having a certain amount of selective action. All these taken in conjunction are certainly sufficient to recommend any remedy. It only remains to note its effects in a sufficiently large number of cases to make it a standard remedy, as it is already looked upon by those acquainted with its good qualities from practical experience.—*From the June, 1899, number of the St. Louis Medical and Surgical Journal.*

Cystogen.—Hexamethylen-tetramin, the ammonia salt of formic aldehyde, was introduced into therapeutics by Nicolaier, of Berlin, since which time articles have appeared in European and American journals commending its use. Cystogen is an American output of this same salt, is a weak base, occurs as white crystals, and is freely soluble in water. It is best administered in a glass of water; the average dose being five grains, three or four times daily. It may be administered in this quantity for months without ill effects. Yet the administration of excessive doses may cause irritation in the urethra, which, however, disappears upon the dose being reduced.

Ten or fifteen minutes after administration, cystogen and also formaldehyde can be detected in the urine, showing conclusively that this salt liberates formaldehyde in the genito-urinary tract, and in all probability in the blood itself. For days after its administration has been discontinued it has been detected in the urine. The influence of cystogen, therefore, as a germicide or hindrance to the development of micro-organisms and as a solvent of uric acid may be expected to be continuous. This salt offers the opportunity of employing the well-known germicidal properties of formic aldehyde without experiencing any of the irritating properties which forbid the use of the latter.

From what is known of this salt the following condensed statement of the physiological action and uses is made:

First.—It is a genito-urinary germicide of marked value.

Second.—In cases of pyonephrosis, cystitis, enlarged prostate, residual urine, calculi (renal or cystic), gouty rheumatism, etc., it is a remedy of unparalleled efficiency.

Third.—That it is harmless even when given continuously for months.

Fourth.—In many cases of phosphuria it produces marked benefit.

Alphasol.—Dr. Grimes, of Des Moines, Iowa, reports on alphasol as follows:

ALPHASOL COMPANY, New York City, N. Y.

Gentleman:—A series of tests have been completed of the germicidal efficiency of alphasol, and I have the pleasure to make the following report:

One (1) part of alphasol added to bouillon culture of erysipelas in proportion of one to twenty-five destroyed the germs in ten minutes.

One (1) part in ten killed pus organisms (*aureus*) in ten minutes.

Diphtheria cultures were destroyed by adding one part alphasol to fifteen parts of the culture media in ten minutes.

Typhoid bacilli were killed in ten minutes by one to eight.

These tests were made in heavy albuminous media, liquid gelatin, which inhibits the action of antiseptics.

A study of natural infectious material was made: Pus (mixed organisms) destroyed in two minutes. Nasal secretions sterilized in five minutes. Secretions from purulent catarrh in five minutes.

In these tests alphasol was undiluted, as the infective material was added in masses and some time was required for penetration. Respectfully submitted, Eli Grimes, Bacteriologist, Iowa State Board of Health.

Des Moines, Iowa, July 3, 1899.

In most cases of summer diarrhœa the astringent action of the bismuth salts is a very desirable one, and if, in addition, the salt acts in a marked degree as an antiseptic, the results obtained are necessarily more satisfactory. The faults, as well as the merits of the older preparations, are too well known to need mention. Certain it is, that with children particularly, an efficient and palatable form of bismuth is a desideratum. The report comes from the Children's Hospital at Berlin (Kaiserin Friedrich Kinder Krankenhaus) that bisol in three to seven and one-half grain-doses, given three times a day in aqueous solution, is followed by the best results in cholera infantum. Both diarrhœa and vomiting were promptly checked and recovery ensued in a few days. In addition, regulation of diet and the exclusion of milk are, of course, of prime importance. Like favorable results ensued in adults with acute diarrhœa, in typhoid, and in intestinal tuberculosis. Bisol acts well in gastralgia and vomiting from any cause.

Virginia Hot Springs.—These celebrated springs are delightfully located in the Hot Springs Valley of Virginia, at an elevation of 2500 feet. Surrounded by mountains rising 4000 feet above the sea, they offer a charming retreat for pleasure seekers, together with the natural conditions so necessary for the comfort of invalids.

A striking feature of the climate is the dryness of the atmosphere. The uniformity of temperature and the dry, invigorating air are splendid adjuncts to the mineral waters. These waters are of considerable value in gouty and rheumatic conditions. The resident physicians of Hot Springs are capable gentlemen of high standing in the profession.

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BACTERIAL TREATMENT OF SEWAGE.

It is more than forty years since Pasteur demonstrated that there could be no fermentation without organisms. This principle has been discussed to some length by Mr. D. Pidgeon, who has shown that the invisible microbe is likely to solve the problem of the effective method of sewage treatment.

At the beginning of the present decade certain experiments were made at the town of Lawrence, Massachusetts, which prove that the success in the filtration of sewage depends upon the very slow motion of exceedingly thin films of liquid over the surfaces of particles having spaces between them sufficient to allow air to be in continual contact with the films of liquid; the presence is necessary, moreover, of certain bacteria to aid in the process of nitrification. The experiments further demonstrated the necessity for making the supply of sewage to the filter intermittent, whilst they afforded a percentage of purification such as had never been obtained before. Of ten filters employed, each containing a different material, four or five removed by oxidation ninety-nine per cent. of the nitrogenous impurities contained in the crude sewage, giving effluents which included less organic impurities, as shown by chemical analysis, than most of the drinking water supplies of the State. The Massachusetts experiments were speedily supplemented by others which were made in England. Notably Mr. Scott-Moncrieff began to study the "biolysis," as he terms it, of sewage, basing his investigations on the consideration that, since all effete substances can be dealt with by nature without assistance from chemicals, the problem resolves itself into discovering such artificial

methods as would enable this agency to deal with the impurities contained in sewage on any scale, however large, at a reasonable cost, without creating a nuisance, and without the use of chemicals. He devised a "cultivation tank," carrying a layer of flints about fourteen inches deep through which the crude sewage runs. This tank is really a *nidus*, suitable for the growth and multiplication of the anærobic organisms—those, namely, that thrive in the absence of oxygen, and give rise to putrescent fermentation. The fresh sewage, not yet derived in the sewers of all its oxygen, is attacked on entrance by ærobic organisms, which, as the supply of the vital element at their command in the influent becomes exhausted, leave what remains of the food supply to such anærobes as find a congenial home in the airless layers of the flint-bed. These so thoroughly complete the work of decomposition and final liquefaction that practically no sludge results, while the effluent contains all the solids and liquids which were present in the raw sewage—resolved into simpler forms, indeed, but also deprived of a considerable proportion of the original impurities, which have disappeared by conversion into carbonic acid, marsh gas, hydrogen, and nitrogen. By supplementing the cultivation tank with a nitrifying chamber sufficient assistance is afforded to the ærobic organisms to permit of the process of nitrification being carried to such an extent as to produce a filtrate containing in solution enough nitrates to give it a commercial value. The chamber contains a series of shallow trays, vertically arranged and separated one from another by a few inches of air space. Each tray holds a layer of finely broken coke two or three inches thick, and the topmost of these is evenly dosed at regular intervals with such quantities of the tank effluent as would represent a flow of one million gallons per acre per twenty-four hours. The liquid falls through tray after tray until, on reaching the lowest of the series, it is found to contain, in every 100,000 parts, from seven to nine parts of nitrates; equivalent to the mineralization of ninety per cent. of the total organic matter contained in the effluent from the cultivation tank. If, as is predicted, the final product of properly biolyzed sewage should contain such a percentage of nitrates as to render it a valuable plant-food, it may not, perhaps, remarks Mr. Pidgeon, prove a mere inventor's dream that there will presently gather around the sewer outlets of towns and cities acres of glass-houses whose abnormally large production, whether of fruit, flowers, or vegetables, will more than pay interest of money on the original outlay.

THE COMPULSORY REPORTING OF TUBERCULOSIS.

What seems to be a fair solution of the problem of whether or not the compulsory reporting of tuberculosis is a wise measure may be found in the conclusions of an article published by S. A. Knopf in the *New York Medical Journal*, September 23, 1899. In this article the writer reviews the present status of tuberculosis, its method of transmission from person to person and from place to place, and the measures that have been taken by the boards of health of the different states and municipalities for its destruction. In speaking of the advisability of reporting all cases of tuberculosis to the board of health, he justly emphasizes the great wrong that may be done to the patient and his family by a want of tact on the part of the reporting physician, and also brings forth clearly the impossi-

bility of stamping out the disease by any such measures. For instance, we may report the case of the tuberculous patient who is bed-ridden and unable to get about; in such a case the board of health could see to it that disinfection, etc., was practiced. But is the great danger of contracting tuberculosis to be found in such cases? Is it not to be found in the great number of consumptives who are able to be up and about, spitting incessantly and exposing all about them to infection? Consider, then, the impossibility of keeping watch of such patients and therefore the utter foolishness of reporting such cases. Knopf finds the solution of the problem as it confronts us to-day when he says that, in view of the uselessness of reporting cases in many instances, the difficulty of having it done with tact where it might do some good, the annoyance, the worlds of injustice and harm it might do to the perfectly healthy relatives of the patient, and last, but not least, in view of the well-nigh impossible task of reporting all cases of tuberculosis, since perhaps one-sixth of us are tuberculous in one form or another, let us by all means leave the prophylactic measures to be instituted in the hands of the medical practitioners, but especially in the hands of the family physician. Let the boards of health supply all physicians with instructions how to carry on a thorough prophylaxis; let all boards offer to physicians a free bacteriological examination, a gratuitous disinfection of the patient's dwellings; let the board distribute spittoons to dispensaries and hospitals; let sanitary inspectors visit all places where tuberculous patients congregate, and let them carry out rigorous prophylactic measures. If a refractory patient is met with who refuses to comply with the physician's instructions as regards the disposal of sputum, let his case be reported as dangerous, and let isolation then be carried out. In this way, by making the family physicians and the health authorities work in unison, the best results will be obtained.

DOES THE REMOVAL OF THE OVARIES EXERT BENEFICIAL INFLUENCE ON THE SUBSEQUENT PROGRESS OF MALIGNANT DISEASE?

E. E. Montgomery, of Philadelphia (*Jour. A. M. A.*, September 23, 1899), takes occasion to review this interesting subject and draws conclusions which deserve comment. G. Thomas Beaton, of England, was the first surgeon who deliberately removed the appendages for the relief of mammary cancer. He removed the appendages from a woman upon whom a previous amputation of the breasts had been performed, with recurrence of the malignant growth one year afterwards. Immediately after the removal of the tubes and ovaries improvement in the condition of the breasts began and continued with a return to good health in less than a year. Some benefit in this ultimate result must be ascribed to the thyroid extract which was administered in this case. Stanley Boyd also reports good success in similar cases. Montgomery's experience has been rather unfavorable in such cases with treatment as detailed above.

The *modus operandi* of the whole thing is that the ovaries exert an influence on the circulation in the vicinity of the reproductive organs through the vaso-motor system. Nature is economic of her forces. With

the removal of the ovaries and the cessation of the need for the performance of their special functions, the unused organs are no longer supplied so liberally with nutrition, and hence temporary relief follows. *But the history of cancer does not prove that it can be starved out, so relief must at best be but temporary.* The apparent relief is afforded through the vaso-motor nervous system. We agree with the author in refusing to sanction the performance of this additional operation until further experience shall have demonstrated its utility. Furthermore, at best such an operation would only be of service if done during reproductive activity, and *not* after the menopause has set in.

THE PLAGUE IN EUROPE.

Within the last three months there have been many deaths in Oporto, Portugal, from the plague. The disease seems to have been brought by the steamship *City of Cork*, which carried a cargo from Bombay. As regards the nature of the cargo there is a dispute. Dr. Mendoza, one of two Spanish physicians sent from Madrid to report to the government upon the disease, believes that the steamer carried a cargo of hides, although the importation of such freight is prohibited in Portugal. The agent of the shipping company denies the allegation, and states that the cargo consisted of bags of rice and chests of tea. Whatever the nature of the cargo, there is no doubt that Europe is exposed to grave danger whenever a steamer from an infected district is permitted to land in a European port. In the instance of Oporto the outbreak occurred on June 22d, the day the steamer was unladen. The disease was of the fulminant form among the laborers who unloaded the ship, and a less virulent form appeared among those to whom they transmitted the disease.

In their efforts to check the disease the Spanish officials have placed a sanitary cordon round Portugese territory, and any person coming from any suspected center of infection is to be detained for ten days or less, as desired by the official physicians. Arrangements have been made for the disinfection of travelers and their baggage, and it is hoped the progress of this terrible disease may be checked.

DETECTION OF TUBERCLE BACILLI IN STOOLS.

Rosenblatt, of Odessa, in the *Centralblatt f. Innere Medicin*, No. 29, 1899, says that tubercle bacilli can easily be found in the feces if the patient is given tincture of opium until the stools are hard and formed. Then an examination of the surface or of the muco-purulent spots will probably reveal the bacilli in the first preparation. The hard scybala, in passing the ulcerations, carry the bacilli along, while in loose stools the bacilli are lost in the great mass. This is quite an ingenious idea, and is of practical use. It has been almost impossible in the past to detect tubercle bacilli in stools of patients with tubercular disease of the gastrointestinal tract because of their great dilution with the fecal matter in a watery state. By thus artificially rubbing the bacilli off tubercular ulcers and bringing them to us almost on the cover-glass, as it were, we are in a position to confirm our probable clinical diagnosis by a positive microscopical test. If some such method could be utilized in obtaining tubercle

bacilli from the urine of patients with tuberculous disease of the genito-urinary tract, how much laborious work could be saved and how much more frequently could we positively confirm the clinical diagnosis of such diseases!

THE ETIOLOGY OF SCARLET FEVER.

Class, of Chicago, is in the field of original research with a micro-organism which he claims is a specific causative factor in the production of scarlet fever. He separated this micro-organism from the throat and from the scales of scarlet fever cases and, furthermore, produced a scaly eruption in young swine by subcutaneous inoculation. The micro-organism separated by Class is a diplococcus resembling the gonococcus in morphology. It seems to grow best upon a mixture of glycerin agar and a bouillon-garden earth medium, although it may be cultivated on the other solid and liquid media. Its characteristics are that it stains irregularly, that it loses its color by Gram's method of staining, and that it attains a large size with age, under artificial conditions of growth. While the work of Class has not as yet been confirmed by the results of other investigations along this line, it is very probable that he has found the true etiologic agent in scarlet fever and deserves all the commendation that goes with such a discovery.

IS THE TUBERCLE BACILLUS OF BOVINE TUBERCULOSIS A DIFFERENT MICRO-ORGANISM FROM THE TUBERCLE BACILLUS OF HUMAN TUBERCULOSIS?

"Bovine Tuberculosis in Its Relation to Man" is the title of an article lately published in the *New York Medical Journal* for September 2 and 9, 1899. The article is written by Edward Moore, M. R. C. V. S., of Albany, New York. The article is written mainly from the standpoint of the veterinarian, and all the arguments brought forth are in favor of the cattle-owner vs. the State Board of Health. It seems that the writer has reason to question the identity of the tubercle bacillus of bovine and human tuberculosis, and is firmly convinced of the duality of the two micro-organisms. In other words, he judges that there is a tubercle bacillus which caused a tubercular disease in cattle, and that there is another tubercle bacillus which causes human tuberculosis. Consequently, he affirms that tuberculous meat and milk from tubercular cows are absolutely innocuous foods for man, and that there is no danger of the transmission of the disease from such products to man. As points in favor of such a theory he brings forth the statements that (1) we have no records of positive transmission of tuberculosis from infected meat or milk (?); (2) tuberculosis is not transmitted from parent to offspring in cattle; (3) that 13,000 human consumptives give off enough infective material annually to account for all the human tuberculosis in the State without the aid of a single bovine; (4) there are no instances of a transmission of human tuberculosis to cattle, even in places like Saranac Lake, New York, where annually thousands of consumptives live in almost direct contact with herds of cattle; (5) there are no cases on record of a transmission of the disease from tubercular cows to their attendants, etc. The conclusion is drawn from the foregoing that since we have the identical process in both

man and cattle, and since the same micro-organism, morphologically speaking, is found in both processes, there must accordingly be a difference in their pathogenic behavior. The idea of selective affinities is contained in this theory—*i. e.*, there is a selective affinity of the human tubercle bacillus for the tissues of man and a corresponding affinity of the bovine tubercle bacillus for the tissues of cattle.

We are forced to admit that the idea is plausible, but not sufficiently backed by experimental work to be accepted as trustworthy. When we are confronted with the bare facts that there *is* a tuberculosis affecting cattle, that the process is identical with that found in the human consumptive, that the self-same micro-organism is found in both processes and reproduces the disease in other animals inoculated with it, that human tuberculosis is a highly fatal disease in most cases, that it is a very common disease in our modern civilization, that it is also common in our herds of cattle, we can but rigidly adhere to the fundamental rules now being laid down by our boards of health—kill the animals which are tuberculous, as shown by the tuberculin test.

THE AMSTERDAM CONGRESS.

There seems to have been some friction at the recent International Congress of Surgeons and Gynecologists which met in Amsterdam in August. The *Medical Press and Circular*, an English weekly, in its issue of September 6th, has made some very forcible statements concerning this meeting:

The recent Obstetrical Congress at Amsterdam shows, however, that, instead of obliterating international jealousies, these meetings afford an unrivaled opportunity for placing them *en evidence*. For many years past the German-speaking countries of the continent have been the happy hunting ground of German professors, an invasion which, naturally enough, has awakened native susceptibilities. This feeling has reached a crisis in Holland, where a stand has been made against the encroachments of German professors, with the result that at the recent Obstetrical Congress the German delegates ostentatiously abstained from assisting thereat, although they had accepted the posts assigned to them, and their papers had been printed. A similar movement is pretty certain to take form in Switzerland, where German professors have, in many instances, succeeded in ousting the Swiss candidates for professorships. The movement is likely to spread, and may ultimately prove fatal to the future of the international congress as at present organized. The vice of the present method is in particular the utter absence of selection, and this vice attains its maximum in congresses not devoted to a specialty. There is an abominable plethora of papers emanating from men who for the most part are unknown to fame, even to that restricted fame which is limited to their own frontiers, and there is in reality no attempt to edit the proceedings. The consequence is that the occasional grains of wheat are submerged in an incredible quantity of stuff which is neither original nor interesting. In fine, there is no scientific object which cannot be attained by the publication of contributions in the columns of the medical and scientific press which, after all, is the path by which the carefully sifted proceedings ultimately reach the profession. The criticisms which we have passed on international congresses apply *mutatis mutandis* to national congresses, except when these meet for the discussion of a specific subject, such, for example, as tuberculosis.

We cannot agree with many of the criticisms contained in this quotation. So far as our observation extends, the International Congress is productive of much good in both a scientific and a social way. The fact that

"there is an abominable plethora of papers" may make necessary a gleaning process; but the same kind of "plethora" exists in our periodical literature, and much that appears in the medical journals is worthless. A judicious consolidation of journals is much needed, particularly in France and the United States—two countries in which medical journalism has had a rank growth. Great objection is often made that the transactions of medical societies appear so long after adjournment. This, it seems to us, can be easily remedied. A copy of the transactions of an International Congress should be in the hands of every member within three months after adjournment.

THE ENZYMES OF BACTERIA IN THE TREATMENT OF MICROBIC DISEASES.

Our attention has been called to an editorial in *The Medical Times* for September, 1899, concerning "enzymes." We note that Dr. Oscar Loew, a bacteriologist in the Agricultural Department of Washington, has published a description of a newly discovered agent which he thinks may replace serum in the various diseases in which it is now used. Loew takes advantage of the fact that some bacteria produce certain ferments or enzymes which by their presence eventually kill the very micro-organisms which elaborate them. He contends that it is the action of these enzymes which are injected into the body together with the toxins of bacteria in the process of manufacture of antitoxins that is responsible for the curative effect of the so-called antitoxins, and that there is not, as is commonly supposed, an antagonizing agent produced in the blood from the presence of the toxins of the said diseases. In other words, Loew affirms that he can produce a body in a test-tube corresponding to an antitoxin of a particular disease, and he does it in this manner: Taking a micro-organism like the bacillus pyocyanus, which, as is well known, is productive of an enzyme, he mixes it with a pure culture of any hardy bacterium, and in a reasonable length of time, varying from twenty-four to forty-eight hours, this hardy micro-organism is killed, whether it be the bacillus of bubonic plague, the vibrio of cholera Asiatica, the bacillus typhosus, the diphtheria bacillus or, last but not least, the bacillus anthracis. Loew also claims to have "immunized" anthrax animals by means of a concentrated solution of this enzyme of the bacillus pyocyanus injected subcutaneously after the animals had been thoroughly infected by the anthrax bacillus. He says that one of these animals was afterwards killed and dissected, and "upon microscopical examination it was found that the anthrax bacillus had multiplied so rapidly in the beginning that they had reached as far as the liver and spleen. But the enzyme injected into the blood had reached even these. *It had destroyed and almost dissolved them.* The enzyme had thus acted in the animal body just as it had in the glass flask of the laboratory. Experiments with other disease germs showed results equally gratifying."

We are a little chary about accepting the foregoing statements as facts, for the reason that their perusal smacks somewhat of the spectacular—the theatrical effect of the enzyme insinuating itself between the meshes of the hepatic and the splenic substance, in its "sleuth-like" efforts to destroy the all-pervading anthrax bacillus, its slowly dissolving action

upon said bacilli and its triumphant battle, with the consequent convalescence of the sorely-afflicted animal organism and its ultimate recovery. The effect obtained by using the words "destroying and almost dissolving anthrax bacilli" is rather vivid and requires quite a wholesale expansion of one's imaginative powers to even conceive of such a microscopical picture. We should be happy to see a microscopic field with anthrax bacilli dissolving upon it "while you wait." What makes us still more skeptical about this research is that it was first noted in the lay press before it was sent to "a German medical paper" for publication. Moreover, it is impossible to reconcile such a finding with the already accepted idea of the formation of antitoxins, and until further and more scientific arguments are advanced in support of this "enzyme theory," we must fain hold aloof and cling to the solid rock of the present ideas in regard to antitoxins and their manner of action.

THE X-RAYS.

Some exceedingly curious consequences are said to have arisen from the use of the X-rays. Many allege that the continuous use of this form of elimination on particular parts of the body produces erythema, and in some cases this is said to have become permanent, due apparently to the permanent dilatation of the capillary blood vessels. A case was recently submitted in which the X-rays had been employed for the destruction of hair on the chin. The hair apparently had been got rid of, but great congestion of the chin supervened; vesicles formed and the erythema had lasted for two years and had all the appearance of permanency. When I examined it the injury consisted of several nevoid patches of a bluish purple color which certainly produced a greater amount of disfigurement than a few supernumerary hirsute appendages. It may be mentioned in this connection that cold, as well as heat, seems to have the effect of producing permanent dilatation of the capillary blood vessels. This is particularly noticeable in persons with peculiarly long noses, the tip of which frequently becomes permanently congested when exposed to prolonged cold. It is not usual to find a general permanent dilatation of the capillaries of the face, but such cases are not uncommon. One came under my notice some time ago; a London 'bus driver on a very cold winter night had taken some hot gin or hot liquor to warm himself. He had to drive a turn of ten miles, and he had observed that ever since he had endured the intense cold of that night his face had become of a deep purple color, indicating permanent dilatation of the capillaries. The whole face and neck and every part that was exposed to the cold were permanently lobster colored.

S&S S&S W. L. B.

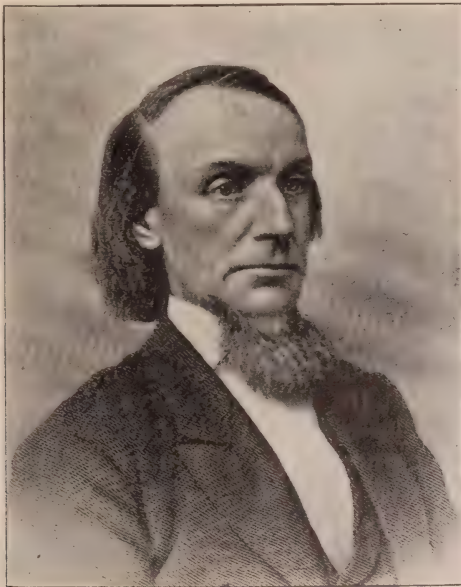
THE MICROCOCCUS TETRAGENUS AS AN ETIOLOGIC FACTOR IN THE CAUSATION OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

We note in the September number of the *Philadelphia Monthly Medical Journal* an article written by Greiwe *et al.*, of Cincinnati, under the above caption. A report is given of several cases of clinical spotted fever in which the diagnosis was seemingly confirmed by the finding of a tetracoccus in fluid obtained by lumbar puncture. From amorphologic ex-

amination and from an incomplete investigation of this tetracoccus upon culture media, the conclusion was reached by the above that the micro-organism with which they were dealing was the micrococcus tetragenus and, consequently, that micro-organism should be accepted as one of the etiologic agents in the production of spotted fever.

Commenting on that conclusion, it may be well to state that there is a flaw in such an assertion. The flaw is this: The diplococcus intracellularis meningitidis often assumes the form of a tetrad and, unless it is carefully observed in its cultural characteristics, it is liable to be mistaken for the micrococcus tetragenus. The report of the bacteriologic work carried on by the above investigators is rather meager and assuredly does not justify the acceptance of the conclusion reached by them. Unless a micro-organism, subject to such a multiplicity of change in both form and arrangement as the diplococcus intracellularis meningitidis, is thoroughly studied upon all the culture media and its morphologic character fully ascertained by making cover-glass preparations from cultures upon all the media, there is no possibility of making a correct bacteriologic diagnosis. While we do not assert positively that it is impossible for the micrococcus tetragenus to cause epidemic cerebro-spinal meningitis, we do affirm that it is highly impossible to say that in the above mentioned cases the micro-organism with which the investigators were dealing was the micrococcus tetragenus.

DR. JOHN S. BOBBS, THE FATHER OF CHOLECYSTOTOMY.



DR. JOHN S. BOBBS.

(Courtesy of Dr. R. F. Stone, of Indianapolis.)

We have pleasure in presenting to our readers a picture of Dr. Bobbs, who made the first cholecystotomy, the date of his operation being

June 15, 1867. The case was reported to the Indiana State Medical Society, May 20, 1868, as "A Case of Lithotomy of the Gall Bladder." The patient, Mrs. Z. Burnworth, is still living, and resides near Oaklandon, Indiana.

Dr. John Stough Bobbs was born at Green Village, Pennsylvania, December 28, 1809, and died in Indianapolis, Indiana, May 1, 1870. He graduated from the Jefferson Medical College in 1836. He was Professor of Surgery in the Medical College of Indiana. In speaking of him the editor of the *Indiana Medical Journal* (October, 1899) has this to say: "Dr. Bobbs was the greatest general surgeon and teacher of his day and generation, and his exploratory operation, resulting in the first cholecystotomy, was only with him an incident in the line of his duty, although proving to be his passport to a page in surgical history for all time to come."

ON THE RIGHT OF THE PHYSICIAN TO KILL THE INCURABLE SICK.

The readers of the lay press may have noticed, recently, a discussion evoked by the assertion of Dr. Dickerson, who frankly avers, in the most positive language, that he believes it is right to kill the incurable sick. Not only does he believe this, but he, in appalling frankness, admits that it is his habit to do so. With well-turned words and sentences he builds a plausible fabric of reason, and by sheer boldness of assertion amazes the reader by his arguments and confounds him by his frank admission of indulging in scientific murder. He urges that the physician's mission is to cure the sick and alleviate human suffering. If he fails to cure, his duty yet remains to alleviate suffering. If he cannot alleviate suffering by any other means, he reasons that the physician should end the patient's suffering by the administration of anæsthetics and other medicines until life is extinct. For boldness and audacity of assertion, this Dr. Dickerson certainly stands out as a conspicuous figure. He evidently believes in the righteousness of judging according to appearances, rather than to judge righteously; for he seemingly, by his acts and assertions, is superior to both civil and moral law. Men's opinion, reason, and judgment are as full of flaws and faults as man himself. Opinion, reason, and judgment are mediums between our perceptions, our insights, and our ignorance. Our ignorance is a creator of audacity, impudence, absurdity, and a source of misery and vice. We will not argue concerning the moral and civil law of this question, but from the plain life-history of the physician we take it, just from what Dr. Dickerson says, that he is more of a physician than a surgeon. The more experience a surgeon has, the more relatively does he view the uncertainty of human judgment. As his experience comes, as his knowledge grows, as he views the varied facts, data, and results of an active life, the less is he likely to desire to assume any other function than one strictly in the best function of his calling. Age, experience, and practice, in the conscientious surgeon, *all* infallibly lead to one conclusion. There is neither glory, honor, nor happiness, except in the perfect function of his calling. The sensible doctor desires not to be judge, lord and master of all, but only an honest devotee to a worthy and useful profession. The fallibility of the surgeon's judgment, even

under conditions far more favorable than the physician's for a diagnosis and prognosis, is constant, particularly so in seemingly incurable troubles. How often does the surgeon find that prognosis under the same relative conditions is uncertain. Many an abdominal tumor has, by its extent of involvement, debarred operative procedure, and, despite a dismal prognosis and every element of seeming knowledge, has recovered. Certain it is, in surgery our experience plainly tells that the best of knowledge is fallible, and that our ignorance is too deep and profound for us to assume the rôle of supreme arbiter. Any man is a fool who assumes to be superior to his calling. There is a true limit to function, and beyond this limit none but an ignorant or a crazy man will go. We are only called upon to do our full duty. We are never called upon to assume the rights and purposes of a God and Creator. The physician should only use his profession in the purity of its function; and no law of God or man indicates that he should assume a criminal function entirely out of the realm of his calling. We quote the following from Ambrose Burce upon this subject:

"It is urged that, not knowing the purposes of the Creator in creating and giving us life, we should endure (and make our helpless friends endure) whatever ills befall, lest by death we ignorantly frustrate the Divine plan. Merely pausing to remark that the plan of an omnipotent Deity is probably not easily frustrated, I should like to point out that in this very ignorance of the purpose of existence lies a justification of putting an end to it. I did not ask for existence; it was thrust upon me without my assent. As He who gave it has permitted it to become an affliction to me, and has not apprised me of its advantages to others and to Himself, I am not bound to assume that it has any such advantages. If when, in my despair, I ask why I ought to continue a life of suffering, I am uncivilly denied an answer, I am not bound to believe, and in lack of light may be unable to believe, that the answer, if given, would satisfy me. So, the game having gone against me and the dice appearing to be loaded, I may rightly and reasonably quit."

That is the way that Dr. Dickerson would probably reason if incurable and in great pain. I confess my inability to discern the fallacious nature of his argument. Indeed, it seems to me that, so far as concerns baffling the Divine purpose, the patient who calls in a physician and tries to recover is more obviously guilty of attempting to do that, than the patient who tries to die. To an understanding that accepts life as a gift from God, illness might very naturally seem a Divine intimation of an altered mind. To one thinking after that fashion, voluntary death would necessarily appear as cheerful submission to the Divine will, and the taking of medicine an impious rebellion.

The right of suicide implies and carries with it the right to put to death a sufferer incurably ill; for the relief which we claim for ourselves, we cannot righteously deny to those in our care. We would naturally expect a medical advocate of suicide to kill a patient occasionally, as humanity may suggest and opportunity serve. Dr. Dickerson's frankness is no less than appalling; but, on a survey of the entire question, it seems a good deal easier to point out his infractions of law than his disloyalty to right, reason, and the higher sentiments.

It is, above all, our duty to do what is right. If we do not know the purposes of our God and Creator in making man; if we do not know why he makes man live, die, and suffer, and our every-day experience shows the depth and continuity of our ignorance; then why assume any doubtful function based upon the perfection of knowledge? The physician's sole duty is to strive to cure diseases and alleviate pain. Beyond this his function does not go; nor is he called upon at any time to interpret the purposes of God Almighty. Here, again, we find it is true that "it is not wisdom, but ignorance, which teaches men presumption."

ANTI-TYPHOID SERUM.

Serum therapy seems to have achieved another victory with the use of anti-typhoid serum in the treatment of typhoid fever. Several successful cases have been reported by English surgeons, both in England and in Indian provinces. What is still more gratifying in this regard is the fact that a case has been recently reported by T. R. J. Cowen (*The Lancet*, September 16, 1899), where improvement followed immediately after the use of anti-typhoid serum, after all other remedies had failed to carry the patient along in the struggle against a persistently malignant case of enteric fever. Relapse after relapse occurred in this case in spite of all stimulating and antipyretic treatment. The physician in charge had urged the use of the serum early in the disease, when its use was clearly indicated, but the man's wife refused to sanction this procedure. Finally, when she saw that her husband was almost beyond hope of recovery, she requested that the serum be used. The physician followed her instructions, with but small hope, however, of achieving much in the way of improvement on account of the advanced state of the disease. Improvement followed rapidly after the first few injections, and the patient then speedily recovered. From a narration of this case we can see that this serum possesses properties not only of a bactericidal nature, but also of an antitoxic character. This more than realizes the claims made for this serum by its first advocates.

Bacteriologists devote themselves to the detection, isolation, and destruction of bacteria, and, strange to say, they do not appear to have given much attention to the danger that lurks in the ordinary articles of household use. For example, the common house-broom is both the habitation and breeding-place for whole colonies of bacteria, and cases of disease have been traced to this article. The refrigerator is also another danger-spot; for we know that bacteria can live for a long time in ice, and thus can contaminate the food with which the ice is in proximity. Cupboards and closets also afford an excellent breeding-ground for pathogenic bacteria, so that they should always be kept clean and well ventilated.—*Scientific American—Med. Age.*

CLINICAL LECTURE.

MEDICAL CLINIC.¹

BY JOHN SEMORE EMANS, M. D., of New York City.

Instructor in Medicine, District Physician to the New York Post-Graduate Medical School and Hospital, New York City.

BRONCHITIS.—This man, whom I now have the pleasure of presenting to you, has a severe attack of bronchitis, which compels him to sit up at night. He is a strong, robust person, and there are to be noted a very few rales, and these are sibilant and sonorous, and are quite well marked. One should bear in mind the fact that there are many cases in which, although having a free expectoration, rales may not be found.

In the treatment of these cases I like the ammonium chloride or ammonium carbonate. The following prescription is one I generally use, and is used largely in the dispensary connected with this institution:

R Ammon. carbonate,
Ext. glycorrhiz.....aa ʒ ij
Morphinæ sulphatis.....gr. j
Aquæ.....q. s. ad ʒ iij
M. Sig.—A teaspoonful every three hours.

In this prescription the licorice covers the taste of the ammonia and makes it more palatable. An external application of turpentine and camphorated oil is ordered as well; this is rubbed in if there be much irritation. If there is much pain, a mustard plaster is generally ordered.

CASES 2 AND 3.—*Asthma*.—Here are two men suffering from the same trouble. This one says he has had a cough during the past five or six years and has been sick all that time. The man's breathing should at once tell you the nature of his trouble. These men are to be treated alike, and the following mixture is the one used largely here in this institution:

R Potassii iodidi.....ʒ ij
Tinct. belladonnæ.....ʒ ij
Morphin. sulphat.....gr. j
Spts. æther. comp.....ʒ vi
Aquæ.....q. s. ad ʒ iij
M. Sig.—Teaspoonful every four hours.

In some instances a larger dose of the morphine is given. This prescription acts better than any one I can give you. One should bear in mind that there may be some cause for the asthma, such as trouble with the heart or with the kidneys; of course, the treatment should then be directed towards the improving of these organs.

CASES 4 AND 5.—*Cardiac Cases*.—This man I wish you all to listen to. He has a double aortic murmur. You can see the pulsation at the second

¹ Held at the Post-Graduate Medical School and Hospital, October 3, 1899.

space transmitted upwards and to the right. We also note here a typical Corrigan's pulse, best appreciated by grasping the arm above the wrist and holding it up. In the majority of instances the pulse-wave strikes the finger forcibly with a quick jerky impulse, and immediately recedes or collapses. This is often referred to as the "water-hammer" pulse. These two cases are similar in nature and the treatment is the same for each.

R	Tinct. digitalis.....	3 ij
	Tinct. strophanthi.....	3 j
	Tinct. nucis vomica.....	3 iv
	Syrupi pruni virg.....	q. s. ad 3 iij
M.	Sig.—Teaspoonful every four hours.	

Of course, this man's heart is dilated; he has a mitral regurgitant murmur which is transmitted to the left. In some instances the murmur is heard best along the left border of the sternum. In cases of extreme mitral insufficiency from valvular lesion with great hypertrophy of both ventricles, there is heard only a loud blowing murmur during systole. Bear in mind that the murmur may vary according to the position of the patient; it may be present in the recumbent position but absent when the patient stands.

The treatment of these cases, when compensation is broken, is with digitalis, which slows and, at the same time, increases, the force of the pulsations. It assists in maintaining a steady and equable flow of blood. The above prescription is the one largely employed here.

I saw a case in the old St. Luke's Hospital which was supposed to be receiving 1-100th of a grain of nitro-glycerine every four hours. The attendant there had formerly been an attendant in New York Hospital, where he claimed they gave it in enormously large doses. He, wishing to beat the record made at this hospital, attempted it in the old St. Luke's, and he ran it up to 1-50th, then to 1-10th, and finally as high as five grains every four hours, with good results. One of your colleagues by my side here states that in Rochester Hospital ninety-six grains of nitro-glycerine were given in a day. Bear in mind, that if you have a high-tension pulse, you can and should give this drug until an effect upon that pulse is produced. They can all stand it. I remember a case of purpura hemorrhagica, a marked typical case, which I treated with ergot and she got well. Two years afterwards to a day I again called on her, and I found that she had again commenced to have hemorrhages in the skin and was bleeding from the mouth and gums, and she was spitting enormous quantities of blood. This was a desperate case. Large doses of ergot seemed to have no effect. I had heard an old doctor speaking of a case similar to this one, where he had used big doses of digitalis. I repeat, this case was a desperate one. So I gave her drachm doses of digitalis every four hours, and left her orders to keep up the medicine till my return next morning. I worried much that night. The next morning I called and was surprised to find her perfectly well, and was told that she had had no more hemorrhages after the administration of the third dose. I think in many instances we are afraid to push the drug till we get the effect desired.

Before closing this morning I should like to call your attention to a

class of cases very common, especially in our dispensary work, in which we find much flatulence, some abdominal pain, constipation, coated tongue, foul taste, little or no appetite, etc., etc.—a class of cases belonging to the beer-drinking and tea-drinking people. The old lady may keep the pot simmering on the stove all day and a good part of the night, and freely imbibes upon advent of visitors; the visitor is certain to have a hot cup of tea. I once met a man in the employ of the Metropolitan Railroad, and I asked him how much beer he drank in a day, and he responded "one hundred glasses." In breweries the men may drink forty, fifty or sixty glasses of beer in a day, but they work and freely perspire and they do not suffer so greatly. In the treatment of these cases the "R. & S." mixture is frequently used. Better than anything else I like the following:

R Pulv. rhei.....gr. xlviii
 Sod. bicarb..... $\frac{3}{4}$ ss
 Pulv. ipecac.....grs. viij
 Tinct. nucis vomicæ..... $\frac{3}{4}$ ij
 Aquæ menth. pip.....q. s. ad $\frac{3}{4}$ vj
 M. Sig.—Two teaspoonfuls three times a day before eating.

I have been in many hospitals and this prescription is used more than any other in this class of cases. It is old-fashioned but it is good. There is on the market a much-advertised preparation having practically the same composition as the above. Druggists inform us that the ingredients must be of a very poor quality if they are to reap any financial benefit from the sale of such a tablet.

Among the stomach prescriptions that have attained the greatest success, and one which was first introduced by a so-called *wizard*, to be used in cases of vomiting and indigestion, is the following:

R Bismuth subnitrat..... $\frac{7}{8}$ jss
 Vini pepsini.....ij
 Tinct. nucis vomicæ.....ij
 Tinct. gentian. comp.....j
 Syrupi zingiberi..... $\frac{3}{4}$ j
 M. Sig.—Teaspoonful every four hours.

All of us have some favorite stomach prescription, and the one I like is as follows:

R Tinct. nucis vomicæ..... $\frac{7}{8}$ ss
 Acid. muriat. dil.....ij
 Tinct. gentian. comp.....j
 Aquæ.....q. s. ad $\frac{3}{4}$ iiij
 M. Sig.—Teaspoonful three times a day before eating.

If constipation is present, I add three, four or five drops of cascara sagrada.

ORIGINAL ARTICLES.

SOME POINTS IN PRACTICAL ABDOMINAL SURGERY.¹

BY PROFESSOR A. C. BERNAYS, M. R. C. S., Eng., of St. Louis.

GENTLEMEN:—Let me thank you for the honor you have conferred on me by inviting me to address you at this meeting of representative and experienced physicians and surgeons. I do not wish to present any new discoveries to you, but I hope, at least, to be able to entertain you and, perhaps, to instruct you by the presentation of an old subject from a new standpoint.

There is a threatening tendency noticeable in the development of the surgical art towards such refined technique that the general practitioner will be left out, because he cannot compete with the surgical specialist in respect to the outfit of most expensive apparatus and prophylactic arrangements which are deemed necessary to carry out asepsis.

The logical consequences of operative asepsis demand that besides the usual sterilizing apparatus and instruments, the operator and the assistants must be fitted out with linen gowns, caps, beard-protecting bandages, respirators to cover the mouth, aseptic cotton and rubber gloves, and many minor paraphernalia. The operating room is also approaching the ideal of a sterile glass box with air-filtering apparatus, hot and cold water-flow, and electrical apparatus for cauterization and illumination.

All of the demands, no doubt, have a tendency towards crowding the general practitioner out and away from surgical practice and of making surgery a monopoly for the wealthy specialist, and for those who hold hospital appointments in larger towns and cities. The general practitioner is even to-day unable to successfully compete with the richly endowed state, municipal, or private institutions that are located in the great centers. It is apparent, therefore, that the general practice of medicine will suffer a great hardship if it is thus made to abandon the most remunerative and also most satisfactory or gratifying department of its usefulness. There is nothing which will so effectually help a physician in the beginning of his career, or that will re-establish the sinking prestige of a physician among his patients as the successful results of surgical work. This is the only department of medicine into which quackery and newspaper advertising has up to date made but small inroads; and if anywhere the competent physician is able to prove his superiority over the scheming quack, it is in the realm of surgery. I desire to open the eyes of the profession, without wishing to tread upon the toes of any particular interests, to the dangers arising to the general practitioner from this development of surgery.

I do not wish to be misunderstood, and hence must say that nothing is more remote from me than to advocate that physicians who have had no

¹ An address delivered to the State Association of Railroad Surgeons at its annual meeting at Ottumwa, Iowa, October 13, 1899.

adequate training and who have no taste or talent for surgery should undertake to perform all surgical operations. The best interests of the public and of the profession are undoubtedly subserved by sending chronic surgical cases to well-equipped institutions, where they can have the benefit of the most skillful surgeons. But there are many surgical cases which are not able to stand the transportation to distant cities, and many emergency cases which demand prompt interference. A physician must, therefore, contrary to the dogmatic rules of science which indicate that surgery must only be done with all the surroundings and apparatus above mentioned, often take the risk of operating under circumstances which do not fulfill the demands of science, and which are pronounced baneful and, indeed, are said to contra-indicate the undertaking of an operation such, for instance, as a cœliotomy.

In the following I shall attempt to give such rules as in my opinion will help to insure success in cases where the general practitioner is compelled to treat intra-abdominal lesions, such as are produced by acute appendicitis, internal strangulation and obstruction of the bowels, and by intestinal perforations.

The first and most important principle upon which we base all our modern surgical manipulations and interferences is the fact that normal repair is prevented by bacteria and their products, the toxins. Hence, these must be kept away from a wound. Where there are no pathogenic bacteria or toxins, precautions may be unnecessary, and even harmful. The sources from which these death-dealing organisms and their products come are either the body of the patient or some external place; as, for instance, the physician himself, his assistants, and what is directly or indirectly connected with them, or, finally, from the air of the apartment in which the operation is done.

The idea that pathogenic bacteria are ubiquitous is erroneous; they are frequent in large hospitals, rare in country houses, and absent in the wilds of the Rocky Mountains. Culture media spread on broad surfaces and exposed in the mountains by competent bacteriologists for days and weeks failed to show colonies of pyrogenic bacteria, and in the vast majority of the plates exposed no colonies of any kind of bacteria could be detected at all. If a healthy boy or a grizzly bear were to sustain a compound fracture of the forearm, caused by a fall in the mountains, and were not seen by a physician but left to nature for a period of three or four months, the wound would most likely be found in an aseptic condition or, perhaps, entirely cicatrized.

The most striking example to prove this unorthodox assertion is found in a most interesting paper published about twelve years ago by Professor Robert P. Harris, of Philadelphia, in *The American Journal of the Medical Sciences*. In that paper the author, who is known as the great statistician of the Cæsarean operation, has collected twenty-one cases of Cæsarean section performed on the prairies or in the woods by the horn of an infuriated bull or a steer upon women in the last months of pregnancy (horn ribs). Of these cases fourteen women recovered. These cases were collected with great care, and after much labor and correspondence Harris succeeded in getting them fairly well authenticated. You may judge of the amount of labor connected with this research when I tell you that in some cases there was nothing to start on but a newspaper item, and that

some occurred in Old Mexico, some in India, one in Missouri, one in Arkansas, two in Scotland and Ireland, others in Russia, and several on the plains in our own territories. Twenty-one were sufficiently well authenticated by letters from reliable sources to be tabulated by Professor Harris and used in his statistics. After reading the remarkable paper of Harris I undertook a further investigation by correspondence and by personal visits to some of the authorities, and although for obvious reasons I will not give details, I found that of the fourteen who recovered only six were ever seen by competent physicians, and of those who died all were handled by physicians except those who died of shock immediately after the attack. Contrast with fourteen recoveries in the woods or fields, the most of them far from hospitals or any kind of medical aid, the statement made by Sir James Y. Simpson, in 1850, that not a single case of Cæsarean section made by a physician or surgeon in Great Britain had recovered. We know that physicians in Great Britain and Europe, previous to the time spoken of by Simpson, wore long perruques and ruffled garments with large ruffled sleeves—the more celebrated the surgeon the more hair and ruffles did he have on—and, of course, in the absence of any knowledge of infection and its causes and effects, we can understand how it was that no woman escaped death who was operated on by one of our unfortunate colleagues. I have in my possession an old print, dated 1663, showing the picture of a shoemaker, knife in hand, making the Cæsarean section on his own wife. He had been instructed how to cut by the physicians. These physicians, in their robes and wigs, together with the preachers and some relatives, are represented on the print in the adjoining room anxiously praying while the brave shoemaker cuts open his wife's belly. It is recorded in quaint language in the accompanying text, that by the miraculous aid of God, mother and child recovered. We know that she recovered because the physicians, who were daily in contact with disease, did not touch or come near to the wound in the woman's body. Permit me to observe that it were good for suffering humanity if physicians of all times, who pray more than they bathe, were kept out of operating rooms. But that is another story.

From the examples cited and the relation of facts we may conclude, *cæteris paribus*, that the country is a better and safer place to perform a surgical operation than a densely populated place. Other things being equal, a newly built private house in a city would be a safer place than a hospital or place where patients congregate in large numbers. The greater safety in both cases is predicated upon the probable absence of pathogenic bacteria in the country and in the new house. Infinite care and watchfulness are required to keep a hospital or infirmary free from the sources of infection, and I would prefer to work in a private house if I can have assistance, trained nurses, and such an armamentarium as I have at the hospital. We will proceed with the subject now, having decided that the country or a private house are suitable places for the successful performance of surgical operations in emergency cases or in such cases that cannot safely be removed to a well-equipped operating-room.

In preparing a room and a table for an operation, the preparation will be done with an eye single to the object of preventing infection. In cases requiring prompt and quick action, I think it will be safer not to tear

down the curtains and pictures, and it will be better to leave the carpet on the floor. Tearing up things will most likely stir up dust and liberate germs and dirt that would otherwise be harmless in their innocuous desuetude or quietude.

The preparation of the hands of the operator and his assistants has been the subject of much study and experimentation. After all has been said, the object of the various methods of disinfecting the hands can only be to remove the dirt and the bacteria, and not to destroy them. Any method which aims at the destruction of the bacteria will fail in its object. It seems to me to be an impossibility, because the skin is more easily destroyed by chemical and physical means than the bacteria which inhabit it. I am also convinced that the too forcible use of a stiff brush does more harm than good. The endermatic parasites are safer when left alone in the deeper layers of the stratum Malphigi than when brought to the surface by violent brushing. Every operator knows whether or not his hands have been in contact with infected patients, and will consciously or unconsciously estimate the danger of infecting a wound by his own hands in accordance with his knowledge of his own past experience. I have several times refrained from work for one or more days, because I did not consider myself safely clean. Cleanliness in every possible meaning of the term, not referring to the intended destruction of bacteria, but to keeping away from contact with organic, fermenting or suppurating and infected areas at all times, and avoiding the contact of the hands with any kind of chemical irritants, must be aimed at by the surgeon. Cleanliness in a kind of religious or ethical sense, attainable by means of physical methods, is what I practice and recommend. My assistants often wonder at my aversion to changing dressings, or in any way coming in contact with the lesions of a patient unless absolutely necessary. I often walk from bed to bed, never touching a case with my own hands, but leaving the management, under my direction, to an assistant or a nurse. This is an invariable rule when I know that I must perform an operation on an afebrile patient the same morning.

In my opinion the best method of cleaning the hands is the thorough use of a strongly alkaline soap for a period of not less than eight or ten minutes—using one soaping for two minutes, rinsing this off in clean water, and repeating the operation four or five times. After this has been done the hands may be immersed for two or three minutes in a bichloride of mercury solution, and dried in alcohol. The bichloride must not be strong enough to irritate the skin of the hands, certainly not stronger than 1:1000.

The skin of the patient over and around the place of operation must be treated in the same way. Coming now to the operation itself, I notice that the scope of this paper limits me to general considerations more than to details, and I believe that I can do more good by giving more time to principles than to details, particularly as time will not permit my going into special cases.

In order to become familiar with the details of surgery there is but one method—and that is to serve a term as an assistant to a master. The most dangerous physician, as well as surgeon, is the one who draws his information and knowledge from a text-book or two. The man who

is turned out of a medical college with little more than a text-book education is in a most pitiable condition. He is compelled to put into practice that which he has only read or heard about, but has never seen and felt. The men who by necessity start out in this way soon feel their helplessness, and by visiting hospitals and getting instruction directly from a master become fitted for the work.

We should strive to have laws enacted compelling all graduates in medicine to take a course of at least one year in a general hospital before they can be legally registered practitioners. Such men would probably all be competent to operate in an emergency. After all has been said, the text-book is a necessary evil, and for the purpose of furnishing information in minor details has a limited usefulness; but whenever I have referred to a text-book for help in a surgical emergency, I threw it away in disgust. Text-books are not written by the original thinkers. As a rule, the pathfinder has no taste for the almost clerical work of compiling a text-book. For information which is of value, we must all return to first principles—we must interrogate nature; and in surgery that means nothing more than to closely observe our cases, using our senses and such instruments of precision as we can command.

The diagnosis in an abdominal case is the first thing that will come up, and I can console you by saying that even after an experience of more than 4000 *cœliotomies* the diagnosis is often a mere guess. If from the history and objective examination the diagnosis is not clear, but an indication for *cœliotomy* exists, the indication had better be fulfilled at once than to wait for an autopsy to clear up the diagnosis. A mere explorative *cœliotomy* will do no harm in itself, and if it leads you to a diagnosis may be followed by life-saving work in the cavity. In most cases of obstruction of the intestines, the seat and cause of the obstruction is a matter of mere conjecture before the operation, and sometimes is troublesome to locate after the belly is open. From the standpoint of prognosis I wish to call your attention pointedly to the matter of whether or not opium or morphia is indicated in any form of abdominal pain or disease. I do not only mean opium and its derivatives, but I wish to extend my remarks to any and all of the narcotic drugs, but particularly to those which have a tendency to stop the peristaltic action of the intestines. The older men used to treat peritonitis by "putting it in an opium splint;" of course the mortality was terrific, but then some did get well in spite of the treatment. If in any case in which a *cœliotomy* is contemplated you are informed that the patient has been given opium or morphia and is constipated, you may multiply the ordinary expected mortality by three. In cases of appendicitis you may safely multiply by six; in other words, the chances of recovery from an attack of appendicitis are six times greater if the patient is treated by means of cathartics and no opiate in any form, than if treated by the old opium method. The mortality following *cœliotomy* of any kind on patients who have been treated with opium up to the time of operation is enormously increased. If there is time to give thorough purgation, and if the opium is discontinued ten hours before operation, the chances of recovery are greatly increased but are not as good by half as where no opium has previously been given. I would lay down the rule that in all cases of abdominal lesions, whether accompanied by pain or not,

in which an operation may be contemplated or be among the remote probabilities, as, for instance, in colic, opium or any constipating drug must be avoided. If the pain is excruciating the inhalation of chloroform or ether will be less harmful; but as a rule a large hot pack will be sufficient to make the pain bearable.

Of all departments of surgery, abdominal surgery is, perhaps, the one which has the most devotees. It has become a specialty, and there are more abdominal surgeons "limited" than there are brain and nerve surgeons. There are more abdominal surgeons than there are bone and joint surgeons. I know any number of surgeons who would not attempt to do a neurectomy of a branch of the trifacial, and who would not for any consideration remove the tongue or larynx for cancer, and who would not attempt an excision of the elbow-joint. But these same men will cut open bellies, remove ovaries and tubes, operate for appendicitis "between the attacks," and perform operations on the gall bladder and for hernia, and will have a low mortality in their *cœliotomies*. I have noticed, however, that these same men will not operate on the stomach; and, in fact, will hesitate long before "refusing" to do hysterectomies; and I have also noticed that if they do hysterectomy the result is not as good as in their other work. I can explain the very large number of abdominal surgeons by giving away to you a little secret which has been pretty well kept up to this time. The truth is that of all the departments of surgical work none is as easy to learn and so universally successful as the work which the abdominal surgeon (limited) has selected for his specialty. It is a fact that the mortality of appendectomy done during the quiescent stage, *i. e.*, between the attacks, is less than one per cent. I cannot see why there should be any mortality at all in this operation, never having seen a death under such circumstances. Why should a healthy man die from whom we remove a practically normal appendix, one that has been diseased and might become troublesome again? The truth is that the peritoneum, of all the tissues in the body, is the one which can successfully dispose of more *debris*, take care of and render innocuous more dirt and bacteria, toxins, etc., than any other. You may conclude then that if you have to operate at all, the abdominal cavity is the place where you can most safely risk your maiden effort—only be sure and select a case of appendicitis in the quiescent stage for the first attempt. Just as easy as the work of the abdominal surgeon (limited), just so difficult is the work of the surgeon who undertakes to do that kind of surgery in the abdominal cavity which is indicated by malignant and benign tumors, by acute inflammatory and infectious processes, and by many obscure lesions, such as, for instance, adhesions and malformations. To do successful work in this department requires a man who has a good pathological training as well as a perfect mastery of surgical technique.

The incision into the abdomen requires no particular instruction beyond saying to the casual operator who operates in an emergency, make it large enough and make it anywhere over the seat of the trouble. In emergency cases the median line cannot often be chosen, and a good rule will be to cut down on the greatest prominence if there be a tumor or a bulging plainly visible or tangible. Cut down to the peritoneum, then stop to check the hemorrhage from the parietes before opening the cavity.

If the parietal peritoneum is normal, cut a small opening into it with a scissors, after picking it up from the underlying intestines. The finger can now be introduced and the diagnosis may be made in some cases. If it is found that the diagnosis cannot be made by the introduction of one or two fingers, the wound in the peritoneum must be enlarged so as to permit the whole hand to be introduced while both edges of the incision are separated by a pair of broad retractors. During this time the patient must be profoundly anæsthetized so as to prevent vomiting and prolapsus of intestines. The diagnosis having been made, the indications must be promptly met; and they are so very numerous and different that I cannot attempt to enumerate the possibilities on this occasion.

If the parietal peritoneum is not normal and is found adherent to the underlying intestines, then it should not be incised but exploratory punctures with either troicart or a pointed grooved director must then be made. This will lead to the detection of pus in the vast majority of cases; in a few cases the adhesion may be due to some non-suppurative process, and the operator must decide whether to extirpate the mass or not. If pus be not found, I would advise an inexperienced operator to desist from further surgical effort and sew up the wound. The patient will be no worse off than before the operation, and the diagnosis will be much cleared up. It will be the duty of the physician to tell the patient and her people that the operation could not be completed under the circumstances, and that possibly an expert surgeon might still be able to benefit the case by a second much more dangerous operation. It is always advisable for an emergency operator to tell the people that he would much prefer to have an expert surgeon, but will make the attempt to do the best he can under the circumstances. He will thus get the gratitude of the patient and will escape censure in case of failure or death.

Should the operator find pus, then his course of action will be on the following lines: The finger must be made to do all the work; the pus cavity or sinus must be followed to its end by blunt work with the finger, the knife and scissors being put away. The edges of the wound must be well retracted so that the eye can follow the operating finger. When the bottom of the suppuration has been found, the cause in most cases will be apparent. It will be either the appendix, the tubes, the gall bladder, or some tubercular disease of the intestines, in at least nine out of ten cases. Should it be some other rare trouble with which the general practitioner is not at all acquainted, then further action must be abandoned and the whole exposed pus cavity must be drained. Should the trouble have originated in one of the first named organs, the treatment in the majority of cases will be the extirpation of the appendix, or tubes, or gall bladder, or again only drainage by means of gauze pack. Drainage by means of tubes alone should never be practiced by any one. If a tube seems a desirable drain it must always be surrounded by gauze wicks or strips; but in the vast majority of cases gauze alone will be best. I advocate extirpation of the offending organ wherever possible; but I cannot advise the general practitioner who operates only rarely to attempt the total eradication of an adherent tube or appendix. By thorough drainage many cases will be radically cured—at least will be free from serious trouble for the rest of their lives; in some a radical operation may become necessary later on, but the

drainage will at least have given temporary relief and may have saved a life.

We come now to a class of cases where a patient has an enormously dilated abdomen, is vomiting and passes neither feces nor gas. He is said to have "peritonitis" or "inflammation of the stomach and bowels." The history gives only a weak clew to the cause of the trouble, and the diagnosis has been made impossible or at least much obscured by the constant administration of some opiate. This condition has existed from one to six or more days, the vomit is getting to smell like feces, the pulse, which has been good, is getting weak and rapid. About eighty per cent. of these cases are what I call *opiated cases of appendicitis*, the rest are due to volvulus, invagination or some form of internal strangulation by bands or adhesions, or to a small perforation or leak in a hollow intestine. A cœliotomy in any case of tympanites, the intestines distended by gas and putrid, liquid feces, is an operation which is fraught with more danger and requires more skill than any other I am acquainted with. The prognosis is bad; the mortality after operation is more than sixty per cent. The technical difficulties are enormous, because after the incision has been made the distended intestines will roll out of the belly and it will be almost impossible to bring them back even after the obstruction has been found and relieved. The result is that even in the hands of an expert and under most favorable circumstances in a hospital, about fifty per cent. die of shock. If opium were taken away from the general practitioner in abdominal cases and Epsom salts and castor oil put in its place, eighty per cent. of these dreadful cases would never even occur. I am of the opinion that these cases are better treated by washing out the stomach every two or three hours, and by rectal nutrition and total abstinence from food by the mouth. Of course, cathartics must be freely given and all other medication stopped.

I have succeeded in saving several cases by making two, and in one case, three enterostomies, so that the intestinal tract could be freed from its putrid contents and the fatal auto-intoxication ended. This operation leaves the patient with two or three intestinal fistulæ or if you like that name better, with several artificial ani. Should the patient survive, these supernumerary openings can be closed at a convenient time and place.

I recommend in cases of this kind, after milder measures have failed, to make two artificial openings into the gut: the one in the right iliac fossa into the cæcum, and the other in the left iliac region into any distended loop of small intestine that may present itself in the incision.

This operation is so simple that any physician can perform it with nothing but a knife and a needle and thread. I once saw a man awake from the chloroform, upon whom I had made enterostomy, and had evacuated about two gallons of liquid feces, get up from the operating table and declare that he never felt better in his life. His abdomen had been distended so much that he measured fifty-eight inches around the waist. When we placed him on the operating table his pulse was 140 and he was in collapse.

In making a fecal fistula, the incision in the abdominal wall need not be over an inch and a half long, and the incision into the gut need not be over one-fourth or three-eighths of an inch long. The gut must be

fastened to the abdominal wall by means of four stitches carried clear through all the layers of the gut and the abdominal wall. These stitches must not be tied tightly, because they might cut through the weakened wall of the intestine. The after-treatment consists in washing out the canal in the gut, but not the wound. A little gauze is placed into the incision and a gauze strip or rubber tube closed by a clamp may be left in the gut. The whole abdomen is then covered by a large, hot, wet pack, which is kept wet by preventing evaporation. This is done by means of a piece of oil cloth or rubber tissue.

The next subject that will engage our attention is the closure of the wound. After having tried all methods and visited all the surgical clinics of Europe and America, I recommend for expert as well as for the casual emergency operator the old through-and-through suture. It gives the best results primarily, and is followed by as few hernias as any of the many methods that have been advocated by means of which the belly wall is closed by three or more tiers of sutures. I recommend, including merely the very edge, about one-twentieth of an inch of the peritoneal margin on each side, while the muscle and fascia are well grasped by the suture. The stitches can be removed on the fifth day and there will be no buried sutures left to cause abscesses or sinuses.

In cases where the wound is not closed, but is left open for drainage, I recommend for expert as well as for amateur that only gauze drainage be used, never the tube alone; but if a tube is used, let it be used together with gauze. If all of the pus, gangrenous tissue, etc., cannot be removed at the operation, means for its escape by drainage must be furnished. The operator must see that the wound is so well drained that a retention of secretions or tissue shreds is impossible. The drainage must be free, and the opening must be so arranged that the gauze, drain or pack can be changed easily without causing pain to the patient. If you are sure of free drainage, irrigation of the wound is useless—indeed it is very harmful, and I have abandoned it altogether in my work. I never use it—even in empyema cavities; it is utterly superfluous if the cavity is well drained. As long as your drainage is sufficient there will be no rise of temperature. The wound may be left alone for days if there is no fever and no pain. Pain, in the majority of instances in these cases, is due to bad or insufficient drainage, and is absent where you have free outlets for the discharge.

The after-treatment of cœliotomy cases for the first twenty-four hours consists in total abstinence from food and drink. Great thirst may be relieved by enemata. Pain must be borne, and the patient must be told by the operator, after she awakens from the anæsthetic, that unless she will lie as still as a stick of wood and bear all pain without a murmur for twenty-four hours she will surely die, but that as surely will she make an easy recovery if she remains quiet and does not ask for drink. Under no imaginable circumstance give opium or morphine, or any other similar preparation. On the morning of the second day give one-tenth grain of calomel every hour or every half hour, until there is a discharge of gas or feces per rectum. This may be followed by a mild saline aperient. Liquid food, first in small quantities, is permissible after the second morning. Cœliotomy cases should remain in the recumbent position three weeks or longer, in order to minimize the chances of a hernia in

the scar. The wearing of an abdominal bandage after getting up is not necessary, but seems to be comfortable to some patients.

About suture material and dressings I have this to say to the casual operator: Use nothing but silk, of different sizes, for all purposes. Do not use catgut. Silk can always be easily sterilized. About gauzes and cottons—in fact, all wound dressings—the general practitioner will do well to use those made by one of the great manufacturers, and packed in such a manner that they cannot become infected or unclean before they reach the physician's hands. I am convinced that the use of these beautifully made articles will give better results to the casual operator than those he can make himself at his office or residence. I have personally tested the goods made by "Johnson and Johnson" in their magnificent plant at New Brunswick, New Jersey, and can recommend them as safely sterile and aseptic. No doubt the products of other firms are also reliably sterile, but I can only vouch for those I have tested.

In conclusion, let me once more emphasize the advantage of having a place where a surgical operation can be performed with all modern conveniences. I would recommend that each town and village support an operating room, and a few sick rooms, for emergency cases. Such a place could be used by all the local physicians, or by a consulting surgeon who might be called in. On the other hand, I wished to show that the great complications and refinements of modern surgery are not always attainable, and to indicate to you that they are not always necessary. It is time to insist that simple means will achieve good results, and that aseptic work can be done in private houses and on farms with satisfactory results.

Dr. Sequeira describes, in *The Lancet* of July 15th, an interesting case of diabetes mellitus in a child three years old. On admission of the child to the hospital it was stated that she had influenza six months ago, and that since then she had been wasting and complaining of great thirst. Large quantities of urine were passed. The patient presented the typical aspect of a person suffering with diabetes. The liver was enlarged; the urine, of acid reaction, had a specific gravity of 1040, and contained a large quantity of sugar. Under proper anti-diabetic treatment the patient improved a great deal; the quantity of urine passed in twenty-four hours fell to about 600 c.c., and the quantity of sugar was much reduced (from 11 to 4 per cent.). The interesting point in this case was the great reduction in the quantity of sugar eliminated during an attack of jaundice. While the jaundice was at its height, the amount of sugar fell to 0.7 per cent.; the amount of urine passed in twenty-four hours averaged 700 c.c. After the icterus disappeared, the urine contained again 4 per cent. of sugar, and the average daily quantity of urine passed was 1000 c.c. The child ultimately died of diabetic coma during an attack of diphtheria.

NEPHROLITHIASIS.

BY A. H. CORDIER, M. D., Kansas City, Missouri,

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A SURGICAL disease that attacks a life-essential organ should receive most careful attention—a stone in the kidney being no exception to this rule. In nephrolithiasis the all-important question of early diagnosis is of paramount interest, as upon an early diagnosis and timely surgery depends the relief of existing lesions and symptoms, and the prevention of irreparable damage to the organ affected. A diagnosis of a stone's presence in the kidney should not receive only a passing thought with the too frequent advice to drink lithia water and wait for development. While I have much faith in the utility of X-rays in locating some forms of stone in the kidney, especially if that stone is a large one, I am sure that to place too much reliance on the negative findings by the rays will be to make many mistakes in diagnosis, and thus prevent many patients from submitting to operative procedures for the relief of existing but undetected stones. Positive findings are valuable, yet negative discoveries are not conclusive. I am thoroughly convinced that many cases presenting obscure septic symptoms extending over a period of months, or probably years, will have this uncertainty cleared up and the symptoms made to disappear by the removal of a stone hidden away in a kidney or the opening or free drainage of a small cortical focus of infection. One of the conditions simulating the presence of a stone in the kidney is a movable kidney with a long pedicle, permitting the ureter to become acutely bent.

A lady, twenty-six years of age, the mother of two children, gave the history of repeated severe pains in right side near the normal location of the kidney; the pains were so severe that large doses of morphine were necessary to relieve her, the pain usually lasting for thirty-six hours, leaving very much tenderness and uneasiness lasting for a week. It was noticed at each attack that there was a swelling the size of the fist in the upper costo-iliac space, the same being quite tender; with the subsidence of the pain, this enlargement disappeared. The pain during the acute attack was that of a stone to all appearance in its severity, duration, and location. The enlargement, it was plain to be seen, was the right kidney distended with urine.

On examining her during the interval of attack, I found a free mobility of kidney. Operation revealed the true pathology—the kidney was freely movable, dilated as result of urinary retention, the ureter was found bound down at a point that produced a complete closure when the kidney descended. To make doubly sure of my diagnosis, the kidney was incised, and carefully explored for stone, but none found—opening in organ closed, and the kidney replaced and fixed. It is now one year since the operation, and she has remained free from all painful symptoms, and is in perfect health.

In many cases the diagnosis of renal calculi is easy, while in other cases the symptoms are so obscure that it is impossible to say that a calculus does or does not exist.

Where the patient has had recurring attacks of severe pain in region of kidney, passing down the ureter, with retraction of testicle on that side, with the presence of blood in urine, absence of tenderness or other symptoms of an acute inflammatory trouble, one may be quite safe in saying that a stone exists.

All cases of nephrolithiasis do not present these typical symptoms—far from it! The largest stone I have ever removed from the kidney (weighing three ounces; see Fig. 1) had never produced any severe suffering—only a sense of uneasiness on the affected side, with an abundance of pus in the urine, with the presence of enlargement, which led to the exploration that discovered the stone. The kidney in this case was saved, but the woman had a urinary fistula for a long time.

Some cases will present only a vague sense of uneasiness in the



FIG. 1.—Nephretic Calculus, weighing three ounces.

region of the kidney, and consult the surgeon principally for the relief of a painful and persistent cystitis; and two or three of my cases have had bladder washings of boracic acid, etc., etc., for months before consulting me. The cystitis has subsided on the removal of the stone, and with it the curing of the pyonephrosis. Every case of chronic purulent cystitis resisting the usual curative treatment, faithfully tried, should lead to the most careful investigation of the condition of one or both kidneys. Blood in the urine as a symptom of calculi is of much diagnostic value, especially if vesical calculi and vascular growths of the bladder are excluded, which can easily be determined, especially in the female; ureteral catheterization under direct cystoscopy in the female will determine the source of the blood, while the ingenious "segregator" of Dr. Harris will aid in eliciting the same facts in the male. A large phosphatic stone will not be

as likely to produce a hemorrhage or severe pain as a small mulberry calculus with its characteristic angularization.

A small stone studded with sharp projections, if free to change its position in the pelvis of the kidney, will produce frequent attacks of pain, the severity and duration depending on the snugness of its impact and the completeness with which it blocks the ureter. A loose stone will likely be accompanied by an increase of the hæmaturia on exercise or riding over rough roads. If two or more stones are wedged into the pelvis or calices, and are so situated that the urine may continue to escape naturally unobstructed, an absence of severe pain will be a feature of the case. A stone so situated will in all probability continue to increase in size. Pain and presence of blood in urine are the two most frequent symptoms present in this disease. The pain is usually, in the beginning, in the region of kidney affected, yet it may extend to either side. This pain varies in intensity from a mere uneasiness to the most excruciating and unendurable agony. The pain may change its position in the progress of case, depending in a measure on the site of the stone; for instance, if the stone passes through the ureter as it descends, the filaments of anastomosis between the nerves supplying the ureter and the genito-crural may produce a retraction of testicle on that side, owing to the irritation of the nerve supply to cremaster muscle, the same being true of the filaments supplying the bladder, thus causing that organ to become irritable through sympathy. In females the pain may be referred to the labium, or at the urethral entrance.

In examining a patient in whom a kidney calculus is suspected, every diagnostic resource should be brought to bear in the case. In a patient with a long history of the presence of pus and blood in the urine following attacks of pain years ago, and the presence of an enlargement in region of kidney is detected, a safe diagnosis in such a case would be nephrolithiasis and pyelonephrosis.

Stones have been removed from the kidney that were so large that they could be felt through the thinned parieties. I have never been able to detect the presence of stones by the grating or rubbing of same together during my examination. The ingenious method of Kelly—that is, the introduction of an ureteral catheter, the point of which being curved by wax to receive an impression by contact with a stone—while very unique and artful, certainly has a very limited field of utility and will rarely be resorted to by the diagnostician.

Malignant diseases of the kidney are rare after early childhood, sarcoma being the disease most frequently found at that period. The carcinomatous growths appearing later in life have traits almost peculiar to themselves; hence, can usually readily be eliminated or confirmed in suspected cases. Malarial hæmoglobinuria may mislead, but the history or malarial attacks, and the use of the microscope, will show an absence of corpuscles in the malarial disease. In making a diagnosis of any disease the symptoms of which are produced by mechanical causes, it is only necessary to apply the usual laws of mechanics as modified by the locality affected, a closely gotten clinical history being essential to this analysis. Uric acid, I believe, forms the nucleus for most stones, yet on casual examination, oxalate of lime calculi appear to predominate; this is due to

the fact that while uric acid forms the base of the stone the oxalate and phosphate of lime are deposited like layers of an onion about the uric acid nucleus. Where there is much suppuration, the phosphates may be so abundant that the pus, urine and phosphates make a thin paste. "In about one in five, stones are found in both kidneys," says one author. I believe this is too high, yet with more careful diagnostic efforts, and more frequent explorations, the truth of this statement may yet be verified. It

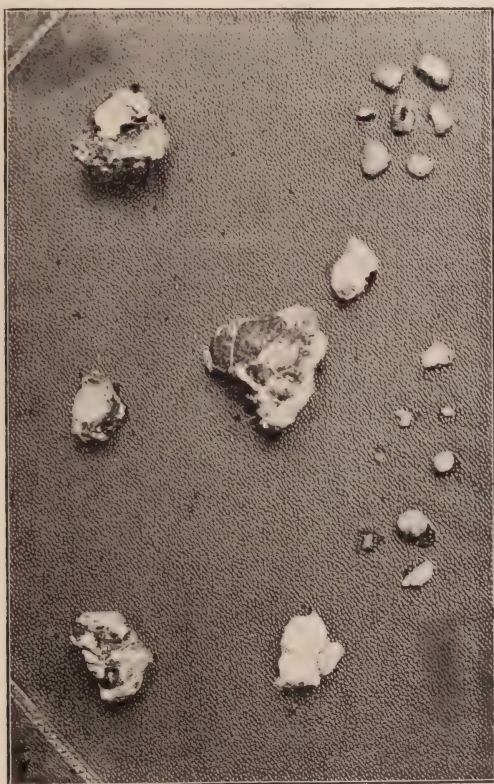


FIG. 2—Nephretic Calculi.

matters not to what chemical class the stones belong, as long as the indications to be met are the same—remove them.

Urate of ammonium in infants, uric acid in adults, oxalate and phosphate of lime after forty, is the way Greig Smith classifies their frequency. The presence of a stone in a kidney or ureter should be looked upon as a source of danger to the life of the patient and as a constant menace to his well-being from a slow sepsis pain, and chronic uræmia, with the ultimate destruction of the affected kidney in a large majority of instances.

In Mr. Morris' cases of early nephrolithotomies, thirty-three in number, he had only two urinary fistulæ following, in both of which the kidney was largely incised to remove large stones. In his late operations for calculous pyonephrosis he had fistula following in thirty-seven, five per

cent. Can anyone doubt the propriety and advisability of early operations in these cases with facts like these presented?

A small stone may form in the urinferious tubules and escape through the ureter, giving rise to no trouble; or if a little larger may produce the most intense suffering during its passage through the ureter.

Septic micro-organisms may pass through the healthy kidney circulation and escape with the urine without producing an infection of the organ, but let nature's resisting walls be destroyed or weakened, and the most destructive invasion may result. A ball valve-stone occluding the entrance to the ureter may by its damming up the urine produce an enormous dilatation of the pelvis of kidney, and even the whole organ, thus leading to atrophic changes, destroying its secreting properties. An argument for early operations, even for small stones; yet it is surprising, even in these large sacculated kidneys that on microscopical examinations are wholly destroyed, to what extent the organ will regain its function after a nephrotomy. When we recall the safety with which an early nephrotomy may be performed, the fear of ill results from the operation, either immediate or remote, vanish. It would be far better to explore a kidney occasionally in error, than refuse this effort at relief in cases in which the diagnosis was doubted, for it must be remembered that many diseases of the kidney simulating stone are relieved by a nephrotomy. An early operation for the removal of a stone before the secreting structures of the kidney are injured, before the pelvis is denuded of its epithelium and infected with pyogenic or other bacteria, is quickly recovered from; in fact, the kidney being closed without drainage heals as readily and quickly as the overlying structures.

At the Middlesex Hospital in ten years there were 3331 post-mortems of death from all causes, and in that number there was found that one and one-half per cent. of deaths from all causes was due to the presence of stones in one or both kidneys or ureters.

A small area of infected kidney structure may give rise to well-marked septic symptoms, and yet the presence of bacteria in the urine remain undetected.

Late operations for a calculous pyonephrosis are frequently unsatisfactory because in some there will remain a urinary fistula that persistently refuses to heal, necessitating subsequent operations, either to close the fistula or to remove the kidney. I am thoroughly convinced that in some of my cases of calculous pyonephrosis I have prevented post-operative fistula by carefully and completely curetting the location of the impacted stone as well as the pelvis and other portions of the kidney seemingly diseased at time of operating. The persistent use of drainage-tube or gauze packing is responsible for an occasional post-operative urinary fistula. Keep the ureter patulous by either a long sound, ureteral catheter, or by forcing liquids through the ureter, through the lumbar incision—this washes out blood-clots and cheesy *debris*, both often responsible for a ureteral stoppage following an operation on kidney. I have in several of my cases for the first few days following operation, while irrigating the infected kidney, forced the fluid into the bladder, thus showing the patency of the ureter and at same time washing away any foreign bodies disposed to occlude this channel. A precaution necessary to observe in ex-

tracting the stone is the avoidance of undue traumatism to the kidney. If pyonephrosis exist, be careful not to destroy any more of the septa than is absolutely necessary, as these partitions contain blood vessels, and bleed very profusely when injured; besides, they frequently contain much secreting or healthy structures. All obscure cavities or isolated infected foci should be opened at time of operation, the finger being the best instrument to explore with.

At time of operating in one of my cases I was enabled to dislodge an impacted stone in the ureter—the stone was fully two inches from the pelvis of the kidney, yet by carefully manipulating the ureter, the stone was dislodged and forced back into the pelvis and moved through an incision in the convex surface of the kidney. It is always desirable, when it is possible to do so, to incise the kidney from its convex surface, as the organ heals much more readily—and certainly here rather than through the pelvis or ureter proper. The hæmorrhage in a healthy incised kidney is easily controlled by the fingers during the operation, and by sutures and pressure after surgery.

The large vessels at the pedicle should be looked for carefully and avoided; a knife thrust down through the cortex, if care is not exercised, may be pushed through into the large vessels, and a dangerous or fatal hæmorrhage induced.

If much difficulty is experienced in checking an alarming loss of blood from kidney, it can be most effectively checked by packing around the organ, using much pressure with bandages and sand bags. If the case is one requiring drainage, a good sterilized gauze packed into the organ will usually check the oozing, and at the same time conduct the urine and pus out through the external opening. This packing should not be left in position longer than thirty-six to forty-eight hours, and all subsequent dressings should be done with very little tight packing unless it is desirable to keep the external wound open for some time. Too prolonged use of snug packs will be disposed to favor a permanent fistula. It is useless to caution against the dangers of opening the peritoneum in operating on a case of pyonephrosis, as all are thoroughly aware of that fact and avoid the "sacred sac" in these cases.

If the peritoneum should by accident sustain an injury during the operation, it should at once be repaired most carefully.

CASE 1.—*Nephrolithiasis*.—Mrs. A., age forty-three, July 11, 1898. Twelve years ago this patient had an acute cystitis, the cause of which I was unable to elicit; since that time she has had recurrences of the attacks a number of times. Two years ago she placed herself under my care; at that time she was suffering from a chronic gastritis. Under treatment she improved in health and gained much in weight. One year ago she had an acute attack of cystitis; the urine showed blood and pus, epithelium, etc. Living at a distance at that time, I was able to see her only occasionally; however, her cystitis improved but did not disappear. Two months ago she developed for the first time symptoms pointing to the right kidney; at that time she developed pain in region of kidney, passing pus and blood in urine. An occasional elevation of temperature was also noticed at this time. Pain on pressure over kidney was elicited, and an enlargement of the organ could be made out easily. Ureteral catheterization revealed pus

and blood coming from right kidney, while healthy urine was collected from the left; bladder inflamed, especially around the entrance to right ureter.

Diagnosis: Pyonephrosis due to presence of stone in kidney; operation revealed correctness of this opinion. Two large stones were removed from pelvis of kidney, and abscess drained through lumbar incision, the wound being packed with gauze. The diagnostic value of ureteral catheterization was nicely demonstrated in this case. The stones were composed of the oxalate and phosphate of lime, as is usually the case in patients after forty years of age. She had never had an attack of renal colic, but had often felt an "uneasiness" in right side over kidney. She recovered nicely.

CASE 2.—*Nephrolithiasis-Abscess Opening into Right Lung*.—Mr. C., age fifty-five. Some ten years ago this man had a severe attack of renal colic (right side), lasting several days. For four or five years he had "uneasiness" and pain in region of right kidney. The pain subsided, and he was fairly comfortable for two years; after that time he again had pain, followed by a chill and fever, the latter lasting several months. He developed a "diaphragmatic" cough during this time (due to the abscess burrowing through diaphragm, and became very much emaciated. One year before I saw him he began expectorating a thin sero-purulent material in large quantities—as much as a pint or more daily; later he developed a sinus in region of right kidney, and fluid was discharging from the same when I first saw him. His urine showed a trace of albumen, was acid in reaction—abundance of pus—three pints of urine being passed daily. Phosphate in large quantities. A probe introduced into sinus passed eight inches upward, inward and to the left. A diagnosis of nephrolithiasis was made as the primary trouble ten years previous; later an escape of stone from kidney into structures around the organ, thus producing an abscess that subsequently opened into the right lung, and later on the surface of loin. The fluid he had been expectorating was urine and pus from right kidney. Operation revealed an old abscess about the kidney and extensive destruction of the organ. An opening with phosphatic lining extended from abscess through the diaphragm into a bronchus of right lung. A stone, the size of a filbert, was found in the abscess cavity; the same, I believe, that caused his attack of nephritic colic ten years ago. He improved very much for a few months following operation, then the tissues about the wound began to break down and a large surface was destroyed. He died two months after operation.

The sinus into lung at time of operation was curetted carefully, and soon closed with the free drainage in the back to take its place. The urine and pus ceased to flow through lung. This case is interesting. First, that the stone should have remained ten years. Second, that so large an amount of urine and pus should have passed through the lung for so long without causing death. Third, that the pulmonary symptoms should all have disappeared after the operation. A post-mortem showed that the liver, kidney and other organs had undergone amyloid degeneration, a fact that I believed to have existed before operating, yet I decided to do all I could for him in the face of unfavorable prognostic truths before me.

CASE 3.—*Nephrolithiasis*.—Mr. K., age twenty-four. This young man one year ago, while *riding*, was taken with a severe pain in right testicle, the pain seeming to originate in the region of right kidney. The pain and retraction of testicle ceased at end of twenty-four hours, under large doses of morphia. He remained symptomatically well up to four weeks ago, when while *riding* he had a recurrence of the pain in testicle; but the pain soon left this point and settled down in region of right kidney and along the course of the ureter of that side. No history of bloody urine, yet no microscopical examination of the urine had been made. In last four weeks he has had almost constant pain, and during the last few days his temperature has run about 101° to 103° . His urine is acid; sp. gr. 1030; no albumen; abundance of phosphates; no blood; but few pus cells are present; tenderness over kidney; some enlargement of organ made out on palpation.

Operation at University Hospital, May 9, 1899. Retro-peritoneal incision, angular from curve border of twelfth rib to point near anterior superior spine of ilium. Kidney much enlarged; overlying tissues adhered to organ. Kidney incised on convex border and finger introduced in pelvis of organ, which was much dilated and filled with fetid urine and pus. No bleeding of any consequence, yet the organ bled quite freely, as they always do. Finger explored the cavity carefully for stone, but none was found until I began irrigating, when a small stone was washed out. A probe introduced into the ureter passed down four inches with no difficulty—no stone felt. Kidney was packed with gauze and usual dressing applied. Urine flowed freely from incision. Fever and pain subsided at once. At the end of two days, believing that a stone was yet impacted in the ureter, I introduced a catheter into the pelvis of kidney, and by hydrostatic pressure forced a stone the size of a small mulberry into the bladder. The patient complained of some pain while fluid was forcing the calculus downward. The fluid (boracic acid) filled the bladder at once. He passed the stone at his second urination, and all ureteral obstructive symptoms disappeared. I continued irrigating the pelvis of the kidney, and at the same time forcing* the fluid into bladder through ureter daily for a few days. The wound in back was then permitted to heal and his recovery was perfect.

I have in a number of my cases after operating demonstrated the patency or occlusion of the ureter by this method of forcing fluid through the ureter into the bladder, a catheter being introduced into bladder, and the fluid colored or otherwise withdrawn. If the patient is awake there is absolutely no danger in this procedure, as the amount of pain complained of will guide the operator as to the time to stop, etc.

FUNCTIONAL CONSTIPATION AND ITS TREATMENT.

By A. J. JENKINS, M. D., of Buffalo, New York.

INGESTION of food, its digestion and assimilation, are universally recognized as essential; but necessity of thorough elimination of waste is not so generally understood, the result of which is much ill-defined, though serious invalidism brought on through an inexcusable disregard of one of the most important calls of nature. On this point a valuable lesson might be derived from the brute creation, whose frequent daily observances of this kind, irrespective of circumstances, are well known, and are a sufficient commentary on the significance of the call, for animal instinct seldom proves false to physical laws. Even the infant has no restrictions whatever, and, when in a normal condition, has upon an average of three passages per diem. There is no doubt that many of the ills of human life may be traced directly to constipation, which, if long continued, introduces a train of symptoms that present themselves for relief in the daily practice of every active physician; nor does he find any one cause of ill health so difficult of removal, for its effects in turn become causes that continually react upon and aggravate its own condition.

By functional constipation is meant that large percentage of all cases of constipation associated with derangement of one or more of the three great processes of nutrition—digestion, absorption, and assimilation, due directly to some disturbance of the physiological action of the intestinal tract, usually brought on by neglect to answer promptly one of the commonest behests of nature. The effects upon the general system, therefore, of functional constipation will be those connected with malnutrition; and the two abnormal conditions will do no less than mutually aggravate each other. From the fact that the intestine is a secreting, absorbing, and eliminating tube, in which the most important part of digestion takes place, it is highly essential that its canal should be kept clean and sweet, kept open and free from all poisonous and extraneous matter—containing only a completely digested and non-irritating fluid—in order that it may perform its duty in a perfectly healthy and rational manner.

Of the three groups of alimentary principles—proteids, fats, and carbohydrates—the first requires the greatest amount of digestion, and in the stomach are largely converted into diffusible peptones; but the pancreatic digestion of proteids, in the duodenum, is carried much further, especially in reference to the disintegration of the molecules, inasmuch as the hemipeptones of tryptic fermentation may be converted into leucin, tyrosin, and ammonia, preliminary stages to the excretion of nitrogenous excess in the form of urea. Such excess is exceedingly common with English-speaking people, owing to the national habit of feeding inordinately on albuminous foods. It will be seen that if the gastric juice be unable to perform the work, on account of excess in the ingestion of proteids, the undigested nitrogenous substances necessarily pass into the intestine, where (particularly if constipation exist) bacterial putrefaction becomes almost inevitable. The subject of the formation of poisonous substances within the intestine, and the effect of this poison upon the health of the individual,

has attracted considerable attention in the last few years, and the various chemical products which are generated either by fermentative or bacterial putrefaction have been quite successfully differentiated. These substances are, of course, mostly eliminated by the kidneys (and can readily be detected in the urine), also in part by the bowels, except in case of chronic constipation, when they are principally absorbed into the circulation, giving rise to the various constitutional symptoms so characteristic of this complaint.

The presence in the urine of the incompletely elaborated products of tissue waste, such as uric acid and the urates in excess, would point to faulty metabolism; peptones, albumin, or indican in the urine would implicate assimilation; while the discovery in the stools of the digestive products in a diffusible form would indicate defective absorption. Collectively these products appear in the urine in the form of ethereal sulphates, and when these are discovered in certain proportions, as they almost invariably are in functional constipation, it may be definitely concluded that putrefaction is actively present in the intestine. The existent nutritive disorder usually takes its origin in the digestive tube, either in alteration of the chemical processes, or in duodenal indigestion from faulty chyme, insufficient flow of bile or pancreatic secretions, or from want of intestinal peristalsis. Absorption of the products of putrefaction and the manufacture of new toxins are the inevitable result of mal-elimination from the uro-genital, or intestinal tract, or both.

The decay of food occurs mostly in the intestines, for the reason that here we meet two potent factors, namely, an albuminoid fluid prone to decay, and bacteria prone to cause the decay most rapidly. Through the labors of Jaffe, Baumann, Brieger, and others, it has been ascertained that the majority of these products belonging to the aromatic series, are elaborated as such in the small intestine and usually eliminated with the urine, one of the most important of which is the combination, indol, which gives rise to indicanuria. This sulphur compound is formed by the putrefaction of albumin in the intestinal canal, which body is oxidized in the organism into indoxyl, which in turn combines with sulphuric acid and is eliminated by the urine. The indicanuria which follows involves more or less auto-intoxication and many resulting nervous symptoms which are often of a serious and distressing character.

We have seen that the nitrogenous foods, which include the glutenoids, are particularly prone to undergo putrefaction resulting in the aromatic sulphates, or, that, if incompletely oxidized and not eliminated, they result in uric acid and the urates; consequently this class of foods should be excluded from the diet to a reasonable degree in all cases of functional constipation. It is believed by Professor Graeme Hammond, of New York City (*New England Medical Monthly*, April, 1895), that the ingestion of too much nitrogenous food in the form of meat leads to bacterial putrefaction, and that "the steady absorption of putrid matter by the blood, and the subsequent distribution of this material to the nervous system, must exert a pernicious influence thereupon in direct proportion to the quantity of poisonous material generated and absorbed." We may fairly conclude, therefore, that the furred tongue, foetid breath, headaches and *various nervous symptoms* so common in cases of functional

constipation are due not altogether to the existence of urates in the circulation, but largely to absorption of the toxic material formed and retained in the intestines. It has already been shown by the investigations of Hirschler, T. R. Müller, Helden, and others ("Intestinal Antiseptics and Aromatic Sulphates," by John A. Wesener, Ph. C., M. D., in the *New York Medical Journal*, November 3, 1894), that "the aromatics are diminished in the urine when the albuminoids are excluded from the food and a large amount of carbo-hydrates is used instead." It has not been proved that these chemical changes take place in no other part of the body, but it has been shown that they are formed principally from protracted decomposition of the albuminoids in the intestine, and Kűchne and Nencke have demonstrated that indol is exclusively a product resulting from the action of bacteria on albuminoids, and, furthermore, that uric acid and the urates result when the albuminoids are not completely changed into urea.

It should be understood that ordinary putrefaction outside the body is the same as pancreatic digestion; that is, albuminoids are first decomposed into leucin, tyrosin, and ammonia, and should then be eliminated as urea, the reserve solids passing through the bowels as fæces; but in case of deficient elimination of the latter, the products being allowed to remain in the intestine, extra-decomposition takes place into the poisonous indol, phenol, etc., which are in turn absorbed, giving rise to the various constitutional symptoms associated with chronic constipation. Any notable excess of indican in the urine may be determined as follows: Into a small test-tube containing a drachm of pure hydrochloric acid about thirty drops of the suspected urine is added and the mixture shaken. A purplish or violet tint appearing within two or three minutes indicates a decided excess of indican. Should this reaction not occur, however, add three drops of strong fuming nitric acid, and if neither of the above mentioned colors appear there is no indicanuria.

So-called cases of "biliousness," so common about the middle period of life in constipated subjects, are really cases of hepatic insufficiency, brought on by the stress of some previous overexertion on the functioning power of the liver in its efforts to prevent faulty metabolism of nitrogenous matter and the consequent manufacture and retention of uric acid in the system. As to the detection of uric acid in the urine, a copious deposit of red sand in the vessel, in which acid urine has stood for three or four hours only, points usually to excessive formation of this substance, which is rendered worse should an abundant fermentation gastro-intestinal tract coexist.

In summing up the case it will readily be seen that a remedy, to be effectual in long-standing cases of functional constipation, must be one which will excite cellular action of glands, and promote the elimination of the waste products of nutrition—*i. e.*: 1. Chemically, it must be a good solvent of uric acid. 2. Physiologically, it must be distinctly hydragogue in action, in order to stimulate the intestinal secretion, bile and pancreatic juice, awaken peristalsis, and thus prevent duodenal indigestion with all its attendant ills of putrefaction, auto-intoxication, etc. For the purpose first mentioned, lithia is universally considered the best known agent, inasmuch as urate of lithia is formed, which is the most soluble of all the salts of uric acid. For the second purpose, a laxative saline is plainly in-

licated in order to excite free outward osmosis, and thus change the dry, hard fecal accumulations or scybalæ into dejections moderately soft in consistency—rendering their removal an easier mechanical process. A remedy, therefore, which contains within itself a combination of these two qualities would be highly desirable and should prove efficacious in these cases.

The only therapeutic agent known to the writer which fully answers to the above description is the new laxative salt of lithia, thialion, which has already been used with exceptionally gratifying results in refractory cases of the uric acid diathesis as well as in functional constipation. A unique, and at the same time very significant action of this drug, is its tendency to cause about the third or fifth day the elimination of what is called the "stinking stool," when it becomes necessary for the operator to isolate himself in the center of a ten-acre lot to save himself from becoming a public nuisance. The cause of this trouble is evidently an old impaction which has for some time been retained high in the jejunum, acquiring its delightful odor from extra-decomposition and the development of a substance which is a final product of the putrefaction of albumin. It is highly important, of course, that this poisonous mass should be removed from the body, and thus prevent absorption and further toxic effects. From what has just been stated it would appear that, theoretically, thialion should prove beneficial in its action upon a "torpid liver;" and in the following case, which has kindly been reported to me by a distinguished brother physician, its salutary effect in this respect is demonstrated in a very practical manner, to-wit:

Mrs. A., American, æt. forty, married, no children, consulted me in reference to obstinate constipation, from which she said she had suffered for many years. She had run the gamut of a long series of patent medicines, pills of various makes, and had received treatment at the hands of a number of physicians without getting anything more than temporary relief. As a rule, the several treatments left her in a worse condition than before. At the time of her first visit the bowels did not move more than twice a week, and then only by the use of large enemas. From her description of the stools, it was quite evident that only the rectum was emptied by these evacuations, and room was made for the full contents of the colon above. She was a large woman, weighing one hundred and eighty pounds, had a sallow skin and a headache severe in character two or three times a week. She also complained of asthmatic breathing, together with painful joints of the hands and feet. Her deep brick-colored urine indicated the presence of uric acid, as well as the waste material usually found in cases of torpid liver.

I directed her to take a dose of thialion, a teaspoonful dissolved in a cup of hot water and drank as hot as possible each morning, and to report to me in two days. On her second visit she said no movement had taken place, and she was apprehensive that she should take something more powerful in order to move the bowels. She was then told that thialion was not in any sense a cathartic, but was a laxative, which acted slowly but surely upon the liver, that she must continue to take the medicine as prescribed for two days more, when she should report again. She did not come to report until morning of the third day, when she said that she had

had three large movements during the forenoon—such movements as she had not had for years. I told her to omit the dose next morning, and to take the medicine every other day, requesting her to call on me again in the course of a week—which she did. At that time she reported regular movements every day, especially the day on which the medicine was taken. Her headache was gone, and she felt very grateful and much better. She continued taking thialion every other day, or twice a week, for four months, and she expressed herself then as perfectly cured.

On seeing the patient last week, over a year since she commenced the treatment, she stated that about once a month she found it necessary to take a dose of thialion, but that aside from that her constipation was perfectly cured. This case illustrates the point that until the remedy gets in its work upon the liver, we cannot expect the bowels to increase very much in their activity.

The following case is reported from the same source, and is particularly interesting as an illustration of perfect recovery from functional constipation associated with long-suffering malnutrition:

Mrs. D., American, æt. thirty-two, brunette, married, no children, weight one hundred and thirty-five pounds, has been a great sufferer from childhood from obstinate constipation. Like the previous case, she had spent much time and money trying to get relief from the difficulty which was evidently undermining her health rapidly. The movements occurred only about twice a week, while once each week she suffered from a severe headache which prostrated her for two days at a time, so that she could not exist out of bed in a room that had to be constantly darkened. She had liver patches on her face, yellow conjunctiva, pasty look to the skin, bad appetite, foul tongue, and all the symptoms that go with auto-intoxication and poisoning. That there was considerable putrefaction and consequent absorption of the retained fecal mass was evidenced not only by the aforementioned symptoms, but also by a well-marked indicanuria.

Thialion was given her as in the previous case, a teaspoonful dissolved in a cup of hot water taken in the morning on rising, while at the same time she was cautioned to avoid excess in nitrogenous foods. It was not until the fifth day that she had a free movement, and then, as she expressed it, it was the most odorous stool that one could possibly imagine to come from a human being. The remedy was continued in her case every morning for a week; then every other morning for two weeks; twice a week then for a month; once a week for another month, and at the end of that time she appeared to be perfectly well. Her bowels moved freely; appetite returned; skin resumed a healthy hue, the pasty look having entirely disappeared; tongue was clean; breath nice and sweet—in fact, every indication was present to show that the nutritive functions were finally being properly performed.

It is now two years since this patient began treatment, and she reports that by taking an occasional dose of thialion she has remained perfectly well, the bowels acting normally—movements being had every day or every other day.

TREATMENT OF FRACTURE OF THE PATELLA BY A TYRE OF STEEL WIRE ROPE.¹

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SINCE the introduction by Lord Lister in 1883 of the method of treating fracture of the patella by direct wiring together of the fragments much has been written on the subject and various ways of applying the sutures have been recommended, but there still appears to be a considerable divergence of opinion amongst surgeons as to the selection of cases in which the procedure is desirable, and also as to the best method of performing the operation.

It is necessary at the outset to discriminate between the two great classes of cases in which operation has to be considered.

1. As a primary treatment adopted shortly after the occurrence of the injury; and

2. Those cases in which, either from want of any treatment or failure of the ordinary methods to effect a firm union, a "flail" joint remains and the patient as a result is seriously crippled.

In the rare cases in which this injury is compound I take it that every one is agreed that where it is possible to save the limb the rational modern treatment is to thoroughly antiseptically cleanse the joint, enlarging the wound if necessary, and then by some of the methods of suture to bring the fragments into accurate apposition. In the ordinary simple fracture the case is different, and much discrepancy of opinion exists. A very large proportion of cases undoubtedly recover with a sufficiently useful limb after treatment by ordinary methods, even where the union is not by bone; and when these methods fail, a secondary operation can be undertaken with every prospect of success, so that many surgeons who advocate secondary operation reserve primary suture for cases of compound fracture only. There are, however, some distinct advantages in immediate operation which must not be lost sight of. If the fragments have been properly brought together the patient is able to get about in a fortnight or three weeks, and intra-articular adhesions, the result of prolonged disuse, which are so often a source of great trouble in joint injuries, will to a large extent be obviated, and if proper permanent sutures have been applied, re-fracture of the same bone, which we know to be so common in these cases, is rendered almost impossible. The only objection which can be urged against immediate operation is the risk of sepsis, which in the large joint cavity of the knee is a very real one, unless the surgeon is beyond reproach in his technique and provided with the best modern facilities for aseptic surgery. Except under these conditions, it is probably better to treat fracture of the patella by the old method, and if a useful limb is not obtained in this way at a later period, an operation can be undertaken.

The original method of Lord Lister of using a few points of interrupted wire suture across the line fracture is open to certain objections.

¹ Author's abstract for INTERSTATE MEDICAL JOURNAL.

The lower fragment may be so small as to afford an insufficient hold; the sutures with their twisted ends, being immediately subcutaneous, are a source of annoyance to the patient, and have sometimes to be subsequently removed; while in cases of secondary operation the fragments may have become so atrophic that they are incapable of holding the sutures, which cut out the moment any strain is put upon them. In a case of my own some years ago this was so apparent that I had to rely on buried sutures in the lateral tendinous expansion of the joint to keep the bones in apposition.

In order to meet the objections to direct suture, Barker passes a

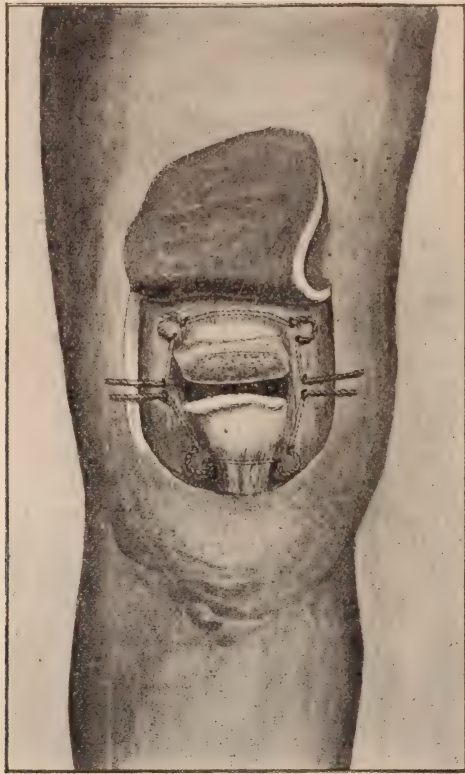


FIG. 1.—Tying of a fracture of the patella with steel wire rope. Method of applying the wire after raising periosteal flaps and vivifying the fractured surfaces.

suture of strong wire or silk vertically round the fractured bone; he makes a small incision through the ligamentum patellæ, passes a needle into the joint under both fragments, out through the quadriceps tendon, and draws one end of the suture through the joint; the needle is now passed subcutaneously in front of both fragments and the other end of the suture also brought out at the lower opening. Upon knotting these ends firmly, the fragments are brought together, any fluid blood or effusion into the joint being drained by means of the incision. The suture ends are then cut off short.

Butcher (*Brit. Med. Journal*, April 30, 1892) passes a suture subcutaneously through the quadriceps tendon and ligamentum patellæ, and ties the knot at the side of the patella.

Twynam (*Brit. Med. Journal*, January 28, 1898) passes a subcutaneous suture completely round the patella circumferentially; as he aptly describes it, "places a tyre round the bone."

I am quite convinced that the open method is the right one. If we trust our asepsis sufficiently to pass a suture through the knee-joint or round the patella, it is surely a trivial increase to expose thoroughly the field of operation. Even in primary operations the advantages are ob-

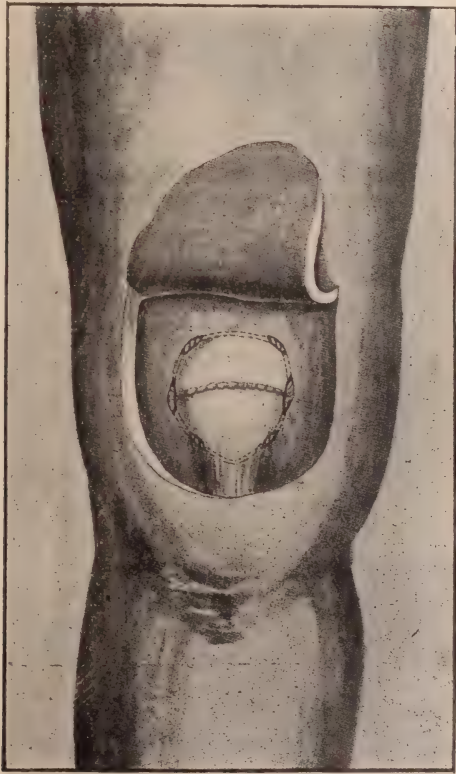


FIG. 2.—The broken fragments brought into apposition and the tyre tightened; the ends of the rope are twisted at each side and hammered smooth; the loops of wire are countersunk into the tissues by means of small incisions, and the periosteal flaps closed across the line of fracture by fine catgut suture.

vious; we can adjust the fragments with a nicety quite unattainable by any subcutaneous method, and, what is still more important, can thoroughly cleanse the joint of blood-clots and fluid effusions. Fluids alone can undoubtedly be got rid of by the aspirator or small incision, but the blood-clots remain unless the joint is freely opened. Blood-clots free in a wound are such a good culture material that upon the slightest septic infection they become a grave source of danger, so that their complete evacuation by free incision more than compensates for the extra wound necessary for their removal. In secondary operations the necessity for re-

moving a thin slice from the fractured surfaces, or, at any rate, peeling off the periosteum from them, renders free incision essential.

The incision usually recommended is made in a straight vertical line over the center of the patella, and the edges are held aside with retractors while the further steps of the operation are completed. I much prefer to raise a horseshoe flap from the front of the joint and thoroughly expose the site of the operation. The advantages of this method are that the increased room much facilitates the later stages of the operation, and when the flap is replaced the entire line of union of the bone, together with the encircling suture, is safely covered up.

Instead of the stout silver wire or silk generally used, I think a rope made of eight strands of fine steel wire, closely twisted together, in every way preferable. It is immensely strong, it does not tend to kink; if it has been properly annealed by heating red hot and slowly cooled immediately before use it is very pliable, easy to adjust, and thoroughly aseptic. Our every-day experience with needles shows that steel can remain practically an unlimited time buried in the tissues without giving rise to any irritation or undergoing any change further than the deposit of a fine coat of polished black oxide. I think it better to pass a separate piece of rope round the upper and the lower fragments and twist them together at each side of the bone rather than to encircle the patella with a single piece and twist the ends at one side only. By this means the right degree of tension can more readily be obtained and the adjustment made more perfect. The following case shows this method more fully:

K. R., a strong country girl, aged eighteen, was admitted into Sir Patrick Dun's Hospital on October 10, 1897. She stated that six months previously she fell into a ditch and broke her left patella; she remained six weeks in bed, but otherwise was untreated. Upon examination, the fragments were found to be separated four inches, and the condyles of the femur could be felt with great distinctness between them. When the knee was flexed she had absolutely no power of extending it, and was seriously crippled.

Operation, October 21, 1897.—A horseshoe flap was raised from the front of the knee-joint, the lower end of which was half an inch below the apex of the patella, and the sides about the same distance from the lateral edges of that bone. It was found that only a very thin membrane connected the fragments together; this was incised transversely and the joint opened. An incision was then made through the periosteum, where it joined the cartilaginous surface of each fragment along the line of fracture, a flap raised and reflected, consisting of periosteum and the membranous connection before alluded to. Some slight irregularities on the osseous surfaces were smoothed with a chisel, but no continuous slice was taken from the bone. A wire rope was passed through the tendon of the quadriceps muscle immediately above the upper edge of the patella, the ends protruding at either side. The instrument used for doing this was that devised by Allingham for passing a rubber ligature through a rectal fistula, but an ordinary trocar and cannula will answer the purpose admirably. The ends were now passed through the tendinous expansion at either side of the upper fragment and brought out at the level of the fracture. A separate piece of wire rope was passed in a similar manner round the lower

portion (Fig. 1). In order to allow the fragments to be brought into contact, a few small horizontal incisions in the tendon of the quadriceps were necessary; these were made at different levels. The ends of wire rope were now twisted together at both sides of the bone, minute incisions under the loops at each of the four corners of the bone allowing the rope to sink into the tissues as the wire was tightened. When all was quite firm, the twisted ends were cut short and hammered smooth, while the periosteal flaps were sutured together over the line of fracture with fine catgut (Fig. 2). The wound was now closed and a back splint applied.

A week subsequently the superficial wound was completely healed and the limb put up in a light plaster case. This was only retained for a further week, when passive motion was commenced, no further dressing being required. In a month she was able to walk fairly well.

She writes now, five months after the accident, to say the leg is quite strong; she is able to walk well and do her work without discomfort.

A similar method can obviously be employed in the treatment of fractured olecranon, except that the ulna must be perforated horizontally, well below the fracture, for the passage of the lower rope.

QUICK METHOD TO CURE A COLD IN THE HEAD.

BY A. S. BARNES, M. D., of St. Louis, Mo.

PLACE patient in bath tub of warm water, the temperature being from 97° to 100° , or as hot as they can stand it without inconvenience for five minutes.

Then roll patient in warmed blanket and put in bed, and heap on covers. Something old must previously be placed under the patient so as not to wet the bedclothes from the sweating.

Then give one-eighth grain of pilocarpine muriate dissolved in one-half glass of warm water. If the patient is weak or thin, less pilocarpine can be used.

After three-quarters of an hour's sweating give patient one one-hundredth grain atropine in water. Fifteen minutes after this mop (do not use friction) patient with warm towels, the Turkish being preferable.

Then place on the patient a warmed night robe and put him between warmed sheets with his ordinary covering over him.

Then give the following prescription:

R	Phenacetine.....	gr. 18
	Salol.....	gr. 36
	Caffein citrate.....	gr. 4
M.	ft. capsules No. xij.	
	Sig.—One every two hours.	

Be sure and inform the patient the dribbling from mouth comes from the medicine and will soon disappear.

If these directions are carried out to the letter there is no danger connected with this treatment; and I must say this method will cure a cold more quickly than any other.

INTESTINAL ANTISEPTICS.

BY BURNEY YEO, M. D., F. R. C. P., of London, England,

Professor of Medicine at King's College, London.

INTESTINAL antiseptics and evacuants have for a long time been in use without the *rationale* for their use being known. The old blue or calomel pill, together with the black draught which dissipated the spleen, and the vapors for our forefathers are instances to the point. I intend to consider the subject under four headings: (1) What is the scope of antiseptics? (2) What is the scientific basis for their use? (3) Under what conditions are they applicable? and (4) What are the means of applying intestinal antiseptics? With regard to (1) the medical use of antiseptics is different to the surgical use. The surgeon nowadays aims rather at asepsis than at antisepsis. But in medicine, as concerned with the intestinal contents, asepsis is impossible. We must, if possible, prevent, or at any rate antagonize, auto-intoxication—*i. e.*, intoxication of the organism with the products of digestion. With regard to (2) it must be remembered that certain bacilli are only harmful in the presence of putrefaction or other abnormal condition. The bacillus coli, for instance, is a normal inhabitant of the intestine, and under ordinary circumstances is harmless. If, however, the bowel becomes abnormal in any way, owing to catarrh, long-continued constipation, or sometimes injury, the bacillus coli seems to take on a virulent action. When associated with the bacillus typhosus it has the power of intensifying the virulence of the latter. The experiment of Dieulafoy with the bacillus coli when taken from an appendix, the cavity of which had got shut off from the rest of the bowel, and the same organism when taken from the normal mucous membrane of the bowel, show that the former is virulent, the latter not so. As, then, the virulence of intestinal bacteria depends upon their environment, so by modifying that environment it is reasonable to suppose that we can modify their virulence. With regard to (3) intestinal antiseptics are indicated in gastric catarrh and fermentative dyspepsia. Grangé recommends in cases of summer diarrhœa the use of plain boiled and cooled water. He claims that the use of this dilutes the toxins. There are many other conditions to which fermentative dyspepsia and auto-intoxication give rise: Such as dyspepsia, chest pain simulating angina pectoris, vertigo, aphasia, and anæmia. Even pernicious anæmia had been considered by some observers to depend upon some toxin which exerted a hæmolytic action. There are three other diseases in which the use of intestinal antiseptics is rational—namely: cholera, dysentery, and typhoid fever. Of the first two I have had no practical experience, but with regard to typhoid fever I have for some years advocated and practiced the use of intestinal antiseptics. Typhoid fever often exhibits symptoms of being due to a mixed infection, and this may explain the extraordinary variations in the severity of cases. I can recall instances in which the use of a chlorine and quinine mixture given every two or three hours has been attended with most marked results for the better in cases of typhoid fever. So, also, in some cases of indefinite febrile affec-

tions accompanied by rise of temperature, furred tongue, and foul-smelling stools the use of thymol by the mouth, together with irrigation of the large bowel by eucalyptol, olive oil, and soap-and-water administered in the knee-chest position, had rendered the patients well. I am not able to say to what exact disease this condition was due, but I think that whether the original infection had been by typhoid fever or influenza that the condition which I was called upon to treat was due to the action of the bacillus coli in an abnormal environment. With regard to (4) the various intestinal antiseptics are: water boiled and cooled, calomel and salines, both of great value in the *early* stages of typhoid fever. Salicylate of bismuth and carbolic acid are both useful. As to the latter, I remember a case published recently in the *Lancet* by Dr. G. Williams, where a patient suffering from typhoid fever took by mistake one ounce of carbolic acid. He had, of course, to be treated for the toxic effects, but recovered from them with his typhoid fever symptoms much lessened. Salol is very uncertain. Eucalyptol and thymol are both good, and irrigation of the large bowel in such cases as I have mentioned was a necessity. Patients, especially in typhoid fever, must not be overfed. I would conclude with a warning against the production of the modern manufacturing chemist who sets up to teach the clinical physician.

The Role of Insects, Arachnids, and Myriapods in the Propagation of Infective Diseases of Man and Animals.—George Nuttall (*The Lancet*, September 16, 1899), gives a review of the work that has been done by hygienists in the study of the propagation of disease through the medium of insects, etc. He says that this subject has not been given the attention it deserves and urges that more work be done in this line. Flies may act as either passive or active agents in the transmission of disease—*i. e.*, they may carry pathogenic bacteria on their wings or external surface of their bodies and deposit them upon any object upon which they come to rest; or, they may suck blood from infective sources and afterwards bite another individual, thus bringing about infection of the second person.

Insects, arachnids and myriapods, while serving as intermediary hosts, may play an active or a passive rôle in the spread of disease due to animal parasites. They play a passive rôle when they are devoured by a host of the parasite they contain. They play an active rôle when, as in the case of the tick in Texas fever, and various mosquitoes in malarious affections of man and animals, they inoculate the parasite into a host by means of their probosces. An intermediary position must be given to mosquitoes in connection with *Filaria Bancrofti* and *Filaria recondita*, as they infect themselves by sucking the blood of the definitive host. A passive rôle is played when insects, etc., transport the eggs of animal parasites and deposit them in food or other substances. Grassi showed by experimental studies that flies may carry the eggs of *tænia solium*, etc.

LONDON CORRESPONDENCE.

African Medical Research.—A new field for the operations of medical science is presented by the peculiar diseases incident to Africa. The Commissioner of the British Central African Protectorate for last year points out in his report that the health of Europeans has been considerably improved in the lower shire districts, though blackwater fever continues to be a deadly disease in that country. On the subject of health Dr. Gray, the principal medical officer, ascribes the improvement to the diminished rainfall, the substitution of well-lighted, airy brick and stone houses on healthy sites for the damp and dark wattle and daub erections of the pioneer days, and the increase of the medical and nursing staff. The main fact gathered from the recent compulsory registration of diseases of all classes is that while malaria, in all its forms, is very prevalent, the country is singularly free from most of the African tropical diseases, such as beriberi, yellow fever, sleeping sickness, dengue, etc. Elephantiasis is limited to very small area, and is not increasing. Amongst the natives confidence is daily growing in European medical and surgical methods. Crocodile, lion, and leopard bites, and gunshot wounds are the main surgical casualties, and they often yield results to treatment which would be impossible in a European, for the native powers of recuperation are marvelous. As to the blackwater, or hæmoglobinuric fever, to which eleven out of the sixteen deaths of Europeans last year were due, Dr. Gray says that all attempts to settle the ætiology and pathology of this disease have met with no satisfactory results. Natives seem to be immune; Europeans leading temperate lives are attacked as well as those who do not, though not so frequently, and the disease is as prevalent in the highlands as in the lowlands. The chief characteristics of the disease which experience has so far revealed are that it attacks all Europeans; each attack is progressively worse than the preceding one, quinine has nothing to do in causing it; after the first attack the tendency is to recur as residence in the country is continued; and when the disease is taken in hand at an early stage it will give way to treatment except in the most acute cases. But Dr. Gray has no doubt that the mortality will decrease with improved facilities for treatment and nursing.

The Malarial Mosquito.—Some information has been received from the expedition which has gone to Sierre Leone to investigate the malarial mosquito. The following letter has been received from Major Ross, indicating a certain amount of success. He writes to the Secretary of the Liverpool School of Tropical Diseases: "In my last I told you that I had found a malaria parasite in an *anopheles* from the asylum at Kissy, where there had been an outbreak of fever. We now turned our attention to the 3rd West India Regiment stationed at the suburb of Wilberforce, where they are suffering severely from fever. On going there we found all kinds of parasites in the patients in hospital. At the same time we discovered that the only form of mosquito which is plentiful there is a

large species of *anopheles*. We caught a number of these in the hospital and barracks. Out of thirteen examined we have found the malaria germs in no less than four, which amply accounts for the fever at Wilberforce. It was, however, necessary to make a definite experiment by actually feeding an *anopheles* on a case of malaria, and examining afterwards. This was done on the 17th. The insect was dissected yesterday and found to contain malaria germs growing in its tissues. Hence there is no longer any doubt that that kind of *anopheles* carries malaria, and I consequently wired to Mr. Jones: 'Mosquito found.' This means success for the expedition, but we have still to study where the *anopheles* breed. Scientific details have been sent to a journal, which will publish weekly notes from us. I also wired to Mr. Jones to ask the government to send out men at once to continue the work. I advise strong action to be taken, and have written to Lord Lister, Professor Ray-Lankester, and Dr. Patrick Manson. The men or man must arrive before September 20th, as we return on the 23d. Any man who comes here to continue our work must be taught the preliminaries by us, or he cannot do much. Hence the hurry. You understand why we want a man to continue to work. It will be criminal if a strenuous endeavor is not made by the government or the school to get rid of these *anopheles* here. At the same time we cannot possibly undertake this in five weeks, whilst it is evidently the duty of the government. The expedition has done really smart work, I consider. The parasite which I have cultivated is the quartan one, which has never been cultivated before. We are all perfectly well up to date. I am looking round as to sanitary details, etc., as Mr. Jones suggested. Austen has discovered the tsetse-fly here. This is a matter of very considerable importance."

Increase of Lunacy.—The fifty-third report of the Commissioners in Lunacy to the Lord Chancellor states that the total number of lunatics in England and Wales on January 1, 1899, was 105,086, being an increase on the corresponding number on January 1, 1898, of 3,114, the largest annual increase yet recorded. Private patients increased in 1898 by 231; pauper, by 2,868; and criminal, by 15. The percentages of increase upon the numbers in the respective classes on January 1, 1898, were in the private class, 2.73; in the pauper class, 3.09, and in the criminal class, 2. The chief increase of pauper patients has, of course, been in the county and borough asylums, which on January 1 last contained 2,466 more than on January 1, 1898; but there was also an increase of 41 in the metropolitan licensed houses, of 11 in provincial licensed houses, of 350 in ordinary work-houses, and of 39 as outdoor paupers, while there was a decrease of 22 in registered hospitals, and of 17 in the metropolitan district asylums.

Men and Heroes.—In our obituary list we have to chronicle the death of Professor Bunsen, the illustrious Heidelberg chemist, whose death severs the link between the German scientists of the past and those who walk in their footsteps. His name is associated with the Bunsen voltaic battery which took the place of Grove's battery and which has only been displaced by the dynamo. The Bunsen gas-burner is a necessity in the

laboratory or wherever a clean flame is wanted. No one before Bunsen had thought it possible that a mixture of coal gas and air could be made to burn without explosion from a simple tube burner. Bunsen studied the chemistry of the blast furnace, the chemistry of light, the geological conditions of Iceland, the theory of the geysers; but the research which will hand his name to posterity is the discovery of "Spectrum Analysis."

The death of Sir William Frankland removes from this country a distinguished experimental chemist of extraordinary range, width and variety, who had studied in the laboratory of Bunsen. In 1850 he announced the preparation of compounds of zinc with methyl and ethyl, and predicted the existence of twenty other similar bodies. He investigated the chemical composition of gases derived from coal. He perfected the methods of water analysis, and was appointed a member of the second Royal Commission on the pollution of rivers in 1868. His main service was reporting on the quality of the London water, and he took great interest in preventing the pollution of rivers by trade refuse. In physiological chemistry he also made some investigations.

American Visitors.—Last month London was invaded by an enormous influx of visitors from America. A large and distinguished detachment came from St. Louis. While congratulating themselves on the happiness of having visited London, it was somewhat striking to hear them as neighbors, on looking at the vast number of medical gentlemen hailing from America, commiserate the helpless condition of the poor sick persons whom they had left behind in St. Louis and elsewhere, and wondering how the death-rate might be affected.

In England this has been the congress month—a month when the scientific appetite was regaled with all that is best for the human frame and animal spirits. Not so much as regards the mental side of scientific thought were the various congresses pronounced as unqualified successes by those who had had the pleasure of attending them from distant lands as the gastronomic and hygienic feasts and functions for which English congresses are renowned throughout the world more than for their scientific aspect. London was the meeting place of the Otological Congress, at which we were pleased to see present your townsmen, Dr. Goldstein and Dr. Ewing, taking an important and prominent share both in scientific discussions and in social functions. The congress held at Utrecht on ophthalmology likewise attracted many specialists among that branch, among whom your distinguished townsmen Dr. James Moores Ball and Dr. Renaud took a very prominent part and rendered important scientific and social contributions. London also focussed the spare members from that congress, as likewise from the Congress of Gynecology held at Amsterdam.

The season is fast drawing to a close, though we still hope to have the presence of many American scientists at the scientific function of the English year, the meeting of the British Association, to be held at Dover next week.

A Plague of Bites.—During the unusual hot and dry summer which has been experienced in England, many cases of curious skin rashes have

occurred from bites of insects. Some of these bites were large and circular, about the size of a cent piece. These have been particularly common in the case of patients with a sensitive skin. In one case papules and pustules and inflamed patches over the whole of the legs, back, and arms, due, undoubtedly, to the virulence which the insects common enough in this country had assumed during the hot weather. Almost every person was complaining of the severity of the bites of flies, gnats, bed-bugs, and harvest-bugs. The most irritating and the most unusual to be met with in this country have this year been more than usually common, and I have myself been severely bitten with mosquitoes. The neighborhood in which I reside seems to have been suitable for their development. So much has this been the case that I devoted two midnight watches in my bedroom and dining-room for the purpose of securing specimens of these malicious insects. I secured one small, sharp-nosed, spider-legged, double-winged, high-tuned creature which I believe to be no other than the enemy that has made my nights a terror and my days an agony. The gnats have been particularly injurious in Scotland, where, indeed, their bite is so fierce and malevolent that near the shores of the inland lakes visitors must go veiled.

The Plague in Europe.—Despite the vigilance of nations and the progress of western science the dreaded bubonic plague, once the foe, not only of the Orient, but of the western continent and of the isles, has made its appearance in haunts from which it had long been thought incapable of revisiting. At the gateways of Europe cases have broken out and have been treated with all the vigor of enthusiastic science, aided and abetted with public trepidation. This visitation has caused dismay. Formerly prevalent over a wide area in Europe, the plague completely died out in 1841, and during the fifty-eight years that have elapsed it has only once appeared, twenty years ago, on our continent. It was then entirely confined to a limited area in Russia, was of short duration and of diminutive mortality. That was in the province of Astrachan, on the Volga. The outbreak of 1877 and 1878 was of a bubonic character of an abortive or ambulant type. In some weeks, however, it assumed a violent form. The rate of mortality in the early part of December was forty-three per cent., but at the height of the epidemic, which occurred in the last week of December, it rose to one hundred per cent. Every person who took the disorder at that time died. All the medical men who came to the district to attend the sick fell victims except one. The symptoms were those of typical plague. By the end of January the whole thing was at an end in Vetlianka, and two or three weeks later the other places affected were equally clear, nor did any recurrence take place. The epidemic lasted, in fact, less than four months. An attempt was made to isolate the infected villages, but it was found impossible to do so effectively. Those who believe that an epidemic pestilence can be repelled at the point of the bayonet may argue that the "sanitary cordons" played an effective part in checking the spread of infection, but on the other hand it has been pointed out that these were not established until the disease had practically ceased, and the Russian authorities of the present day believed such measures to be useless.

Our English papers are much occupied by reports of the appearance of this eastern plague in different parts of Spain. They wonder whether it has come from Bombay, Vienna, Alexandria or where not, and much brilliant ink has been utilized in favor of each supposition. For some time much anxiety has been felt throughout Spain, and this is probably due to the reticence of the Portuguese government. The government made no statement as to the cases which occurred in Oporto, and were thought to be adopting a policy of concealment. This gave rise to some newspaper indignation. Up to August 15th no official announcement had been made by the Portuguese government. The Spaniards, therefore, formed a "military cordon" prohibiting intercourse between Portugal and Spain, but many evasions of the cordon and quarantine were reported daily. It is difficult to form an opinion as to how Portugal can explain her non-observance of the Venice sanitary congress. A large and important meeting was held on August 25th to protest against the establishment of effete sanitary cordons round that town. The whole question of the efficacy of quarantine in epidemic diseases has here arisen, and has, up to the present, proved its inadequacy.

It appears also that in the present outbreak military measures have been taken to cope with the plague round the district of Astrachan. Persons coming from that place will not be permitted to cross the frontier into Roumania. Goods from infected districts will be refused and a ten-days' quarantine imposed at Sulina. On August 26th fifty-one cases of plague and eighteen deaths had been registered and other cases noted in Portugal. A good deal of newspaper excitement has been manifested over the reports of cases having occurred in the province of Astrachan, in Roumania, and some other places. At Alexandria the total number of cases at that date was eighty-eight, fifty per cent. of which proved fatal.

Towards the end of the month a fresh case had been reported at Oporto, which city seems to be suffering more from the rigorous steps taken to abate the plague than from the plague itself. Several thousands of people have left that city, not through fear of the plague, but through fear of the "sanitary cordon." The city is thoroughly roused against the measures taken by the Lisbon Board of Health, which are only comparable to those taken by the ancient Scottish town authorities in the tenth century.

W. L. BROWN, London, England.

Massage of the Abdomen in Deficient Lacteal Secretion.—Schein (*Jour. de med. de Paris; Obstetrics*, Sept., 1899) lauds massage of the abdomen to increase deficient lacteal secretion. It should be practiced daily for half an hour and it should be made upward from the pelvis to the breasts. With this may be associated massage of the breasts themselves. Schein's explanation is that the function of the mammary glands is intimately connected with the amount of blood brought to these glands from the genital organs by means of the vessels of the abdominal walls.

BRUSSELS CONFERENCE

— ON —

VENEREAL DISEASES.

A very interesting conference was held in Brussels last week, at which dermatologists and syphilographers met to discuss various questions of public interest in connection with that and other forms of venereal diseases. The discussion ranged itself round half a dozen questions. The first question was whether the regulations at present in force had any influence upon the frequency and the propagation of syphilis and other venereal diseases. Various views were expressed by the representatives from countries in which regulations of the kind indicated were enforced, and from those who represented countries like England, in which no such regulations existed. Many of the speakers pointed out, in rather glowing and exaggerated terms, the terrible evils of syphilis as a disease and its apparent progressiveness. The English representatives curiously enough pointed to the arrest of the dissemination of syphilis in England as judged from a statistical standpoint. It appears, therefore, that in the case of syphilis, as in the case of drunkenness, the more the trouble is regulated the worse it tends to become, and it was pointed out that theoretical and practical regulation, as regards England, breaks down.

Regarding the second question: "Is the present organization of medical supervision of prostitutes capable of improvement?" Much was said on this subject, but little to the point, the only suggestion made by one English representative was that suggested by Mrs. Chant, a notorious social reformer, of supervising places of amusement and of registering the addresses of "all women who frequent such places, and compelling them to submit to a periodical examination and to carry medical certificates with them." This proposal was utterly at variance with the general feeling and with the remarks of so expert a specialist as Mr. Jonathan Hutchinson.

Regarding the third question which was submitted to the conference, whether the present system of licensed houses should be maintained or abolished, it was pointed out that no such question arose in this country, although the laxity of police street regulations was frequently alluded to.

Another question which occupied a good deal of the time of the conference was the legal measures by which it was possible to decrease the number of women seeking a livelihood by prostitution. The English representatives thought that a decrease might be possible if an increase of the facilities for beneficial and sufficiently lucrative employment were open to young women.

The question, however, round which the greatest interest centered was that dealing with the measures which should be taken to combat the propagation of syphilis and venereal diseases. In respect to this question Monsieur Fournier discussed the therapeutic means at the disposal of medical men; the question of consignment to hospitals; dispensary treatment of infected persons; and the appropriate distribution of the necessary medicaments gratuitously. The discussion was joined in by Mr. Rethan Macaré, Professor Woolf, Professor de Droit, Professor Holt, Professor

Lesser, of Berlin, and others. It may be of special interest to those desirous of learning English opinion on this subject to hear the views expressed by Mr. Jonathan Hutchinson, which were specially reported for the INTER-STATE MEDICAL JOURNAL.

Mr. Jonathan Hutchinson and the Measures to Combat Syphilis.—Mr. Hutchinson said: "The resolution is specially interesting to me, because I believe it is almost the only one which can be made practical. I believe at present it would be quite impossible to trust any body with the regulation of prostitution, or to carry such a law out effectually, even if that were possible. So we address ourselves with interest to the collateral subjects, as to the manner in which the propagation of syphilis and venereal diseases may be disseminated. As to the question regarding the transmission of syphilis to the child, I believe that the general dissemination of knowledge on this point is all that is required. The law is that a man who has had syphilis ought not to marry until two years after the date of his contracting the disease. This would practically put an end to inherited syphilis. I will not deny that there may be exceptional cases in which syphilis may be transmitted for a longer period than this, but as a result of very careful personal examination through a long series of years I feel justified in stating my general conviction that two years' abstinence is amply sufficient for all practical purposes. Amongst the better classes, "the more educated classes in England," this is now well known and understood, and is almost invariably conscientiously regarded.

I would like just to add that among the more educated classes in England syphilis is almost infinitely rare. We scarcely ever see it at all. The deaths which occur in connection with the transmission of syphilis are almost always amongst the poor and uneducated. There seems to be great exaggeration as regards the prevalence of hereditary syphilis in England. During the last ten or thirteen years in England the deaths from inherited syphilis have been greatly reduced in the proportion of from seventeen to twelve—*i. e.*, a reduction of more than a quarter, or nearly a third.

Permit me to add that the idea prevalent to the non-professional mind, and so far amongst the profession, especially represented by Professor Fournier, is that the inheritance of syphilis is a means of reducing the stamina of the race. That, I think, is a canard. I do not believe it in the least. I do not believe that the third generation is in the least hurt by the transmission of syphilis.

My next point is I think there is an improvement in the treatment, which is likely to be productive of a great diminution in the prevalence of syphilis, for we have returned to our faith in mercury as the antidote for that disease, and we are now effecting far greater things than did our ancestors in the cure of syphilis. Mercury has now begun to be used before secondary symptoms develop, and in English practice we scarcely see a secondary stage at all—we suppress it altogether; and I believe that this goes a long way in preventing the tertiary symptoms, in shortening the period during which the infant is a source of danger as regards contagion. The results in England have been encouraging, for during the last thirteen years the mortality ratio for syphilis has been reduced from seventy-eight per million to sixty-one per million—exactly in the same proportion as the

mortality from inherited syphilis. We distrust statistics, and no one more than I do, but here they are found to coincide, in a general way.

Regarding the rules for limiting the spread of syphilis in England, the facilities for treatment of syphilitic patients in hospitals should be extended liberally, and cases of syphilis in the early stages should be admitted quite early, attaching no stigma to the patients and encouraging them to present themselves at an early stage for treatment.

Then the increase in medical education is a factor in limiting the spread of syphilis; we need a development of education in our own profession on the subject of syphilis. We need more extended and accurate knowledge; rules laid down which we shall act upon if possible. We cannot expect uniformity, but it is possible that certain guiding laws might be formulated. More post-graduate teaching is needed. It is not to be expected that during the student's career he could have got all the knowledge necessary in that direction; medical education is one point by which the prevalence of syphilis will be greatly restrained. As regards social education, how far should education in this direction be given to the non-medical part of the community. It ought to be given to a considerable extent. I should be sorry to see printed literature thrown broadcast, and I think the knowledge of these matters should be restricted to the one sex only. There is a very general feeling in that direction, and a general adoption of the practice in senior classes in schools where young men congregate would be beneficial. He should have systematical information as to those maladies and risks, and of the best way as to how to avoid them.

Then there is the moral education, the education of the sentiments as regards responsibility of the individual in reference to others. This moral education need not necessarily be presided over by fanatics or enthusiasts or religious persons. There is a largely spreading feeling in England amongst those who are not religious in favor of the endeavor to advance in our respect for women and our regard for the rights of women of all classes of society, and a desire not to assist in the degradation of any one class as a source of enjoyment to the other. There is a growing feeling in England on this subject, and I am glad to see that there is in our medical schools, as in all departments of life where educated young men meet, a very great increase of the sense of responsibility in these matters. The state of medical students as regards this is far in advance of what it was a quarter of a century ago, and that feeling extends to our colleges also.

We have a religious sect called "Quakers;" the Quakers have a lunatic asylum of their own, and into that asylum they have never admitted a single case of general paralysis of the insane. Professor Fournier has shown that this is a syphilitic disease. I believe that the Quakers, owing to a peculiarity of dress, etc., have a higher standard of sexual morality; there are plenty of insane Quakers. But only a year ago I sent a case of general paralysis of the insane to the asylum, having formerly treated the patient for syphilis. I do not think that the stamina of the Quaker constitution has been damaged one iota by the continence of the young men up to the age at which they are married.

I may be told that we could not develop a sense of moral responsi-

bility amongst our soldiers, and I know that the statistics of the English army are discouraging, but here again, among the officers of the army, there is a developmental education proceeding. We are beginning to think of the soldier as one of ourselves and not as a man emancipated from moral control and one who is not called upon to go through a period of degradation in a moral sense while he is in the army. Syphilis in the Indian army is said to have become most alarming; I do not believe in statistics. I believe in the impression which I obtain for myself. I went to Netley, the place to which the invalids of the army of our colonies chiefly come. I was met most cordially by Surgeon-General Nash and Major Dick. I saw all the syphilitic cases there, and having done so I came away with a very favorable impression. I saw a certain number of severe cases of syphilis of the face, syphilitic rupia, and I came away with the impression that the really severe cases were few and far between. Professor Dick said to me: "Well, Mr. Hutchinson, there has been a good deal of exaggeration on this matter, and you have come at a time when we have not a great many cases in the wards."

I believe the feeling of my English colleagues and of the large majority of the English nation would be in favor of paying great attention to these ways of diminishing syphilis and in doing nothing to justify any man in saying that this is in any way approved of. We ought not to do anything which would consign to degradation a large number of young inexperienced women of that class which specially require sympathy and education. The attempt to establish moral responsibility by attention to temperance, athletics, industry, so far from favoring the degradation of any race, would tend in every to enable humanity to advance the true interests of our race.

THE UTRECHT CONGRESS OF OPHTHALMOLOGY.

The Ninth International Ophthalmological Congress met in Utrecht, August 14-18, with an attendance of over two hundred. The scientific work was disposed in three sections: (1) Anatomy and pathology; (2) optics, and (3) clinical methods and treatment. Many of the papers were of high order, although few dealt with subjects absolutely new. Among the noteworthy subjects were the address of Mr. Priestley Smith, of Birmingham, England, on the "Treatment of Strabismus in Very Young Children;" the "Demonstration of a Method of Locating Foreign Bodies by the X-Ray," by Mr. Mackenzie Davidson, of London; the paper of Mr. Treacher Collins, of London, on the "Anatomy and Congenital Defects of the Ligamentum Pectinatum;" the paper of Mr. G. A. Berry, of Edinburgh, on an "Operation for Conical Cornea." The paper of Dr. Ball, of St. Louis, on "Sympathectomy for Glaucoma and Simple Atrophy of the Optic Nerve," brought out considerable discussion. The "Demonstration of a New Demonstration Ophthalmoscope," by Dr. W. Thorner, attracted much attention.

Among the important papers may be mentioned Prof. Sattler's (Leipzig) on "Non-Cataract;" Prof. Landolt's (Paris) "Demonstration of a

New Stereoscope to Exercise the Eyes for the Re-establishing of Binocular Vision;" Mr. Treacher Collins' (London) "Demonstration of the Anatomy and Congenital Defects of the Ligamentum Pectinatum," with lantern slides. Prof. Dör (Lyon), "On the Treatment of Detachment of the Retina," followed by a very interesting discussion. Dr. Guttman, Berlin, cured some cases of detached retina by posterior sclerotomy; and Dr. Scheffels, Kerfeld, had also two successful cases by the same operation, and maintained that now we cannot consider detachment of the retina as an incurable affection. Dr. Wolfe, Melbourne, late of Glasgow, was pleased to hear that his operation of posterior sclerotomy is gaining acceptance in the profession, and mentioned a case in which the successful result has now lasted upwards of two-and-a-half years.

A very important paper was read by Prof. von Hippel, Halle, on the "Lasting Effects of the Operations for High Degrees of Myopia."

Prof. von Hippel has operated upon a large number of cases by extraction of the transparent lens, during the last six years. Of these he has kept notes, and caused the patients to return to his clinique for examination. He finds the results satisfactory, one of the objections against the operation being that it is followed by detachment of the retina; he maintains that comparing the number of myopes who have been operated on, with those not operated on, the detachments are about equal. Prof. Sattler, Leipzig, spoke in favor of the operation to which he resorts in suitable cases. He finds great advantage in making the section with Weber's hollow lance. Prof. Silex, Berlin, thought the operation required great caution, as it is sure to do a deal of mischief. He, Prof. Silex, observed during a period of nine months in Berlin, twenty-three cases of detached retina after extracting the transparent lens, whilst during the same period there were only three detached retinæ in non-operated cases.

The Congress was opened by Mr. Argyll Robertson, president of the eighth Congress. The sections were presided over by Mr. Priestley Smith, Prof. Th. Leber, Panas, Knapp, and C. Reymond. Prof. Dr. H. Snellen, of Utrecht, was elected president, and gracefully acknowledged the compliment in the English, French, and German languages. The next congress will be held in 1904 in Switzerland.

The social features of the congress included excursions to Amsterdam, where the zoölogical garden was visited as well as the renowned Reichs Museum; to Baarn-Soestdijk, where the Queen's palace was thrown open to the members; and to Schéveningue, where all good Hollanders go to inhale the sea breezes. At each place a banquet was spread.

Among the Americans in attendance were Drs. Henry D. Noyes and H. Knapp, of New York; S. C. Maxon, of Utica, New York; S. D. Risley, G. E. De Schweinitz, and S. L. Ziegler, of Philadelphia; A. Barkan, San Francisco; E. Boekman, of St. Paul; L. Howe, Buffalo; C. J. Kipp, New-ark, New Jersey; R. Sattler and C. R. Holmes, Cincinnati; L. H. Taylor, Wilkes Barre, Pennsylvania; E. O. Sisson, Keokuk, Iowa; J. A. Mul-len, Houston, Texas; and E. C. Renaud, Carl Barck and James M. Ball, of St. Louis.

NEW YORK LETTER.

An Attempt to Expose Christian Science.—It seems unaccountable that a monstrosity like Christian Science should have ever seen the light of day. Nothing so feeble and misshapen ought long to survive the exposure and cruelty to which this child of Mrs. Eddy's erratic imagination has been subjected, and now it seems that an endeavor is being made to strangle it in open court. Mrs. Josephine Curtis Woodbury is suing Mrs. Eddy and certain other of the leading Christian Scientists for \$150,000 damages for libel.

Mrs. Woodbury was formerly a Christian Scientist herself, but says she was ex-communicated by Mrs. Eddy without having had any charges preferred against her. Mrs. Eddy's "persecution, slander and defamation of the plaintiff became so persistent, aggressive and damaging" that the defendant was socially ostracized. Mrs. Woodbury proceeded to investigate Christian Science and found it wholly fraudulent; she published the results of her investigation without maligning Mrs. Eddy's character. The latter claims that she is the realization of the biblical prophesy contained in the 12th chapter of the Book of Revelations: "And there appeared a great wonder in heaven; a woman clothed with the sun, and the moon under her feet, and upon her head a crown of twelve stars: and she being with child, cried, travailing and pain to be delivered. And there appeared another wonder in heaven: and behold a great red dragon having seven heads and ten horns and seven crowns upon his head," etc., etc. Now, Mrs. Eddy claims to be this woman clothed with the sun, etc.; and that Christian Science is the child of which she was delivered. She also claims that Mrs. Woodbury was the fulfillment of the second part of this prophesy: "And I saw a woman sit upon a scarlet colored beast full of names of blasphemy having seven heads and ten horns. And the woman was arrayed in purple and scarlet, having a golden cup in her hand full of abominations and filthiness of her fornication," etc. Mrs. Eddy proceeded in a lengthy article to score the plaintiff with all the harsh terms that she could rally.

This is only another one of the many incidents showing that Christian Science is certainly not Christian in any sense of the word. A woman who cannot write a sentence fit for publication without its first being doctored by a proof-reader can scarcely lay claim to being scientific. This fad is neither Christian nor scientific—*ergo*, it is not. Mr. Peabody, the counsel for the plaintiff, says that he will be able to prove that his client was the subject of the extraordinary passages complained of, and that the libel, embracing the whole Christian Science, cannot be made intelligible to a jury without bringing into court the most extravagant of Mrs. Eddy's teachings. It is to be hoped that such an exposure will effectually dispose of this cult. It is to be hoped that their own suicide will, in this way, be effected, as the public would then be saved the trouble of passing laws for the protection of the lives of these misguided people and their children. In this connection we cannot help quoting from Dr. Richard-

son, who handled this topic without gloves at the Toronto University. He quoted freely from "Science and Health," and amid the hilarity of his audience ridiculed the whole subject unmercifully. He said it was a conglomeration of deceit, blasphemy, mesmerism, and avarice. Mrs. Eddy herself had had four husbands, and, therefore, in her own personal experience, the "mental fluid" had not exerted its usual potency. He considered poverty a stern reality, not to be dissipated by the logic that "God is good."

New Dispensary Law.—Comptroller Coler has been endeavoring to do his duty in cutting off the numerous medical charities from the public crib. The new dispensary law went into effect on October 1st. This law defines a dispensary as "any person, corporation, institution, association, or agent whose purpose it is, either independently or in connection with any other, to furnish, at any place or places, to persons non-resident therein, either gratuitously or for a compensation determined without reference to the thing furnished, medical or surgical advice or treatment, medicine or apparatus, provided that the money is used by and for the purposes of said dispensary, shall be derived wholly or in part from trust funds, public moneys, or sources other than the individuals constituting said dispensary and the persons of said dispensary actually engaged in the distribution." All dispensaries must be licensed, and the Board of State Charities is empowered to examine every dispensary and to revoke a license if the law is being violated. A person violating this law is guilty of a misdemeanor, punishable by a fine of not less than ten and not more than two hundred and fifty dollars.

Comptroller Coler, in presenting his report to the Board of Estimate, recommends several important changes in the disbursement of public funds among private charities. He upholds the Stranahan amendment to the charter, which authorizes the Board of Estimate to appropriate money for the aid of charitable organizations, and to increase or diminish the amounts of such aid regardless of the recognition which any institution may or may not have obtained from the legislature. In 1898 it was shown that this city expended \$2,334,456 for prisoners and public paupers, and \$3,131,580 for paupers and private institutions. Chicago expended \$2,796; Philadelphia, \$151,020; St. Louis, \$22,579; Baltimore, \$227,350; Boston, Cincinnati, Cleveland, Washington, Milwaukee, and Jersey City, nothing.

The comptroller suggests that all appropriations of public funds for charitable purposes be made only from the budget, instead of from the excise tax funds and the theatrical and concert license funds. He suggests that the appropriations be made upon a uniform *pro rata* basis. An examination of the returns show that, in many instances, funds are used for purposes not authorized by the constitution. In one case the manager of an institution frankly explained a remarkable falling off in disbursements (so great that charitable activity was almost suspended) by stating that it was proposed, by exercising great economy for a number of years, to let the city's annual appropriations accumulate into a respectable building fund. It is unnecessary to comment on such a proceeding.

Effective Ambulance Service.—During the Dewey celebration New York handled one of the largest crowds recorded in history, there being about 1,500,000 visitors; and there were the usual accidents incident to such large gatherings. At frequent intervals along the line of march there were Red Cross and police signal stations, and the ambulances were in constant demand. However, they did their work with great expedition. The hospitals were crowded to the utmost, but, fortunately, there was only one fatality; which is certainly a remarkable record, when all things are considered.

A man with broken neck, who was operated upon by Dr. Atbe on September 19th, is steadily improving. The accident happened on August 7th, from a fall from a horse. The operation consisted in removing fragments of cervical vertebræ that were compressing the cord. Much notoriety is given through newspaper columns, but no doubt a full history of the case will be offered through the proper channels in due time.

Dr. Achilles Rose, of this city, had the honor conferred upon him of the Silver Cross of the Knights of the Royal Order of the Savior, by his majesty George I., king of the Hellenes. This honor was conferred in recognition of the doctor's efforts in the literary line.

A company, with the name of the Automobile Burial Company, has been forbidden by the Board of Health to carry out its plans of starting a crematory.

Bicycle Insanity.—A very silly woman has recently completed her "vacation," having ridden seven hundred miles in eighty-one hours and five minutes. Not only is this woman very foolish, but her act is criminal, the law distinctly forbidding tests of this kind to be continued through more than twelve hours out of twenty-four. Not to be outdone by this, another woman announces that she will soon start out to ride ten centuries, or one thousand miles, in one hundred and twenty hours. The New York State division of the Century Road Club adopted a resolution to the effect that it would not sanction any more continuous centuries by women riders this year. This action of the club has aroused much bitter feeling on the part of these women. It is to be regretted that, through the foolhardiness of a few individuals, a sport so beneficial when used in moderation, should be brought into disrepute.

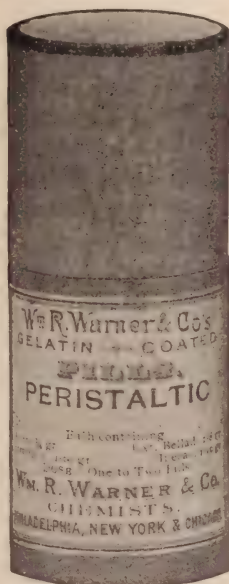
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MEDICAL NOTES.

Relations of Headache to Affections of the Eye.—S. D. Risley chose this subject as his theme in an address delivered before the neurological section at the last meeting of the American Medical Association. The conclusion which he draws, after narrating his experience with headache in an extensive ophthalmological practice, are:

1. Abnormalities of the ocular apparatus are in a large group of patients the sole and sufficient cause of headache.

2. These abnormalities of vision may be the unsuspected cause, and, therefore, the absence of symptoms obviously referable to the eyes does not exclude them as an etiologic factor in headache, insomnia, vertigo, petit chorea in children, and certain stomach derangements.

3. The recent or sudden development of symptoms, after attacks of severe illness, such as typhoid fever, the exanthemata, etc., or in association with more or less acute exacerbations of some general dyscrasia, is not sufficient evidence against ocular participation in causing the symptoms.

4. The participation of the eyes as an etiologic factor in headache can be positively excluded only in the absence of ocular disease, or after the most painstaking correction of any existing error of refraction or abnormality of binocular balance.

5. For the relief of reflex symptoms, accurate corrections are essential, and these can be secured only by the more or less prolonged use of a strong cycloplegic.

6. Immediate relief by these corrections in a large group of patients is not to be expected, since the pain is frequently due to associated pathologic conditions of the fundus oculi, and these require time for cure.

Scarlet Fever Reproduced by Inoculation.—Some important points deduced therefrom, by Jos. Wm. Stickler (*Medical Record*, September 9, 1899.)—These notes were found among the late Dr. Stickler's papers and were published. It was learned from a note that the inoculations were made to prove that a protective virus had been discovered; but when it was found that in each instance genuine scarlet fever was developed, with its possible complications, he desisted and turned his attention to another method of protecting the human system against the contagium of this much-dreaded disease. Ten cases were inoculated, and they all developed typical scarlet fever. The conclusions to be drawn from this work are: (1) The mucus of the throat and mouth has been shown with absolute certainty to contain the contagium of the disease (in these inoculations mucus obtained from the throat and buccal cavity treated with carbolic acid was the material used). (2) The early eruptive stage of scarlatina is exceedingly infectious because of the presence in the discharges from the nose and throat of the specific poison of the disease. (3) The contagium of the disease being in the mouth and throat secretions, care should be taken not only to disinfect these parts as perfectly as possi-



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ble, but to keep the mouth, tongue, and lips moist constantly, if possible, in order to prevent the contagious principle being forced into the air of the room by the exhalations of the patient. (4) Mouth and nose wipes should be used instead of spit-cups and costly handkerchiefs, and they should be destroyed by fire before the discharges on them dry—*i. e.*, at once. If fire be not available, disinfecting solutions should be used strong enough to render the poison inert. (5) The soiling of the bedclothing and personal apparel with discharges from the mouth should be prevented as much as possible. (6) No toys or implements that cannot be boiled or subjected to thorough disinfection should be given to the patient, as they are apt to become soiled by the mouth discharges. (7) Those who minister at the bedside should be especially careful as to personal contamination and disinfection from the moment they enter the room. (8) The nostrils should be taken thorough care of, as the morbid material which finds its way into these parts will, in the dry state, easily find its way into the atmosphere of the room, thus making the spread of the disease more probable.

Quantitative Estimation of Albumin in the Urine.—Purdy (*Journal A. M. A.*, September 23, 1899) speaks of the present lack of a uniform method of expressing quantities of albumin in the urine. As commonly employed, the term "percentage of albumin" is applied indefinitely to gravimetric and volumetric measurements as though they were synonymous, when as a matter of fact they possess the most widely different significations. The numerous methods commonly employed for ascertaining a quantitative analysis of the albumin in urine possess sources of error which render them untrustworthy. The "gravimetric method" is too tedious to be of much clinical value as a test. The method of Tanreth is not available, because of its possible inaccuracy.

The differential density method of Lang, Hoebler, and Bornhardt is useless, because its value depends upon a supposed constant factor which has been demonstrated to be algebraically variable. The optical method is of fair utility, as is the circumpolarization method. Esbach's volumetric method, while it is convenient, is nevertheless subject to constant errors, because the reagent throws out all the proteids met with in the urine in addition to alkaloids, if any are present. A process devised by Purdy insures good results: precipitation of the albumin in carefully graduated percentage-tubes of 10 c.c. of the urine by means of 22 c.c. of a 50 per cent. acetic acid and 3 c.c. of 1 to 10 aqueous solution of potassium ferrocyanid; after mingling of the reagents and urine the tubes should stand for ten minutes; the tubes are then revolved in a centrifuge for exactly three minutes at a uniform speed of 1500 revolutions per minute. The amount of albumin is read off in bulk percentage, which is converted into percentage by weight by means of a table. There is no chance of error, and the test has been used very successfully.

The knowledge which a people possesses of the art of healing is the measure of its refinement and civilization.—THOMAS CARLYLE.

SURGICAL SUGGESTIONS.

Two Cases of the Successful Removal of a Tumor of the Supra-Renal Capsule.—At the Annual Congress of the British Medical Association at Portsmouth, Mayo Robson, F. R. C. S., related two cases in which he had successfully removed a tumor of the supra-renal capsule. One in a woman, æt. forty-seven, operated in 1891, who died of recurrence of sarcoma exhaustion several months after the operation.

CASE II. was that of a woman, æt. sixty-two, on whom he operated in 1897, and who is still living and well. The tumor removed having been a struma lipomatosa supra-renalidis described by Virchow. In the former case the supra-renal growth was so firmly fixed to the top of the kidney that that organ had to be removed as well, but in the latter case only a wedge-shaped piece from the top of the kidney was removed with tumor. In the patient who is still living the removal of the tumor had not been followed by any pathological phenomena.

He also related a third operation, in which his colleague, Mr. Ward, had removed a sarcoma of the adrenal from a child, æt. twelve months. The child died from shock within a few hours.

The author gave a table of nine cases, of which five had recovered and four died. He believed these to represent the whole operative surgery of the supra-renal capsule. He said that he thought the true secret of success lay in operating at an early stage of the growth as in his second case.

After describing the operation cases, Mr. Mayo Robson mentioned a case of sarcoma of the supra-renal capsule which he had observed throughout its whole course in 1875, and from this case and others that he had seen he drew attention to the following symptoms:

(a) Shoulder-tip pain, this was so well marked in all the three cases that he thought it could not have been a mere coincidence, but was probably dependent on the disease. It might be explained by the fact of small branches of the phrenic nerve passing to the semilunar ganglia.

(b) Pain radiating from the tumor across the abdomen and to the back, not along the genito-crural nerve.

(c) Marked loss of flesh.

(d) Nervous depression with loss of strength.

(e) Digestive disturbance, flatulence, and vomiting.

(f) Presence of a tumor beneath the costal margin, right or left, at first movable with respiration, but soon becoming fixed. It could be felt in the costo-vertebral angle posteriorly, and could be pushed forward into the hollow of the palpating hand in front of the abdomen.

(g) Absence of urinary and of gall-bladder symptoms.—*Medical Press and Circular*, August 23, 1899.

R. Lepine records in the *Lyon Medicales* for July 31, 1899, an account of the successful use of sodium bicarbonate by intravenous injection as a preventative of diabetic coma. The patient was on the verge of diabetic coma, and by the intravenous injection of two quarts of water containing in solution three hundred grains of bicarbonate of sodium, the attack was warded off. A similar case by the same author was recorded some time in the preceding year. The diabetes of which the patient was a subject of course continued, being in no way ameliorated by this procedure.

INTERSTATE NEWS.

Mississippi Valley Medical Association.—The annual meeting of this society convened in Chicago, October 3d to 6th, with an attendance of about four hundred, and is said to have been one of the most successful ever held. The address on medicine was delivered by Prof. J. A. Witherspoon, of Nashville, and that on surgery by Prof. Lewis S. McMurtry, of Louisville. Both addresses were of high order.

The election of officers resulted in the selection of the following:

President—Harold N. Moyer, of Chicago.

First Vice-President—A. H. Cordier, of Kansas City.

Second Vice-President—S. P. Collins, of Hot Springs, Ark.

Secretary—Henry E. Tuley, of Louisville.

Treasurer—Dudley S. Reynolds, of Louisville.

The next meeting will be held in Asheville, North Carolina, in 1900.

Married.—The marriage of Dr. Jabez N. Jackson, of Kansas City, to Miss Virlea Wayland, of Salisbury, Missouri, occurred October 12th.

Dr. Floyd Stewart, late major and surgeon Second U. S. V. Infantry, and formerly chief of clinic in the dermatological clinic of the Charity Hospital, New Orleans, and clinical assistant to the chair of dermatology in the New Orleans Polyclinic, has returned to St. Louis, his former home, after three years' absence. The doctor was stationed in the province of Santiago de Cuba for over ten months. Doctor Stewart has resumed practice at 3611 Finney avenue.

The Memphis Meeting.—The Tri-State Medical Association of Mississippi, Arkansas and Tennessee will meet in Memphis, November 14, 15 and 16, 1899. The sessions of the association will be held in the Women's Building, northeast corner of Jefferson and Third streets. It is expected that this meeting will be without a peer, from the standpoint of the number of physicians in attendance and the full programme of interesting papers to be presented. Physicians from the territory tributary to Memphis are urged to attend the sessions of the association.

Titles of papers should be sent to the Secretary, Dr. Richmond McKinney, who will also be glad to furnish any desired information.

The Linton District Society.—The next meeting of this society will be held in Mexico, Missouri, November 14th, under the presidency of Dr. L. O. Rodes. An attractive programme has been issued, and a large attendance is expected.

Removed.—Dr. G. C. Eggers has removed from St. Louis to Clayton, Missouri; Dr. G. W. Grove has removed from Kansas City to Albuquerque, New Mexico; and Dr. J. Herbert Austin, of Kansas City, has gone to El Paso, Texas.

NEW REMEDIES.

Glyco-thymoline.—The following cases have been selected as they appear on the record book, as a fair showing of the merit of glyco-thymoline as a therapeutic agent in a variety of cases:

CASE I.—Mrs. M., age thirty-two. Family history good. With exception of usual diseases of childhood, patient has been quite healthy until present trouble; present trouble, vaginitis. Local, purulent discharge—gonococci not present; no pain on micturition; constant burning and itching. Treatment consisted of the introduction of pledgets of absorbent cotton saturated with glyco-thymoline. The same were employed at night and in the morning. Rapid improvement followed this treatment. Recovered in two weeks.

CASE II.—Mr. B., age twenty-five. Patient came to me complaining of itching sensation in rectum and occasional bleeding after going to stool. Examination showed several small hemorrhoids. Glyco-thymoline diluted one-half with distilled water was used every night for one week. It was applied by soaking small pieces of absorbent cotton in the solution; this was placed in the rectum at night. The rectum was also washed out with same solution in the morning after stool by means of rubber syringe. This palliative treatment was so satisfactory that patient has complained of no future trouble.

CASE III.—Mr. L., age forty-three. History of long-standing catarrhal affection. His particular complaint was that as he traveled a great deal on sleeping-cars, he was constantly taking "cold." His nose was either discharging or, after acute symptoms had passed, it was filled with crusts. Glyco-thymoline one part, normal salt solution four parts, to be used with Birmingham douche. The result demonstrated the value of this agent in rhinitis.

CASES IV. and V.—Patients were suffering from rhinitis; gave history of nasal obstruction after sleeping, and muco-purulent discharge during the day. Examination of both cases revealed nothing more than congestion of inferior turbinated processes and of the nasal mucous membrane. Both cases noted relief after douching with glyco-thymoline and salt solution.

CASE VI.—Mr. B., age twenty-nine. Cystitis of some months standing. Bladder was washed out with solution of glyco-thymoline at regular intervals with satisfactory result.

The formula of this agent includes sodium, boric acid, benzoin, acid salicylic, eucalyptol, thymoline, betulu lenta, menthol, pini pumilionis, glycerine and solvents sufficient. My experience leads me to consider this a valuable preparation in indicated cases.—W. J. KRESS, *Assistant to* DR. A. C. BERNAYS.

Milk of Magnesia.—Drugs that cause gastric irritability like the salicylates, bromide and iodide of potassium, though absolutely indicated and required to be pushed, are frequently abandoned because of their irritating effect. Phillips' milk of magnesia is a perfect vehicle for such

remedies and should be used whenever the salicylates and iodides are prescribed. In the gouty and rheumatic diatheses due to uric, lactic or lithic acidity, it is also valuable, while in the intestinal indigestion of infants attended with flatulence, it serves admirably, alone or in combination with some of the carminatives. The assertion can be made positively that it produces no concretions, as with the calcined, or carbonic acid, as from the carbonate form.

Hagee's Cordial of Cod Liver Oil Compound.—(By Jos. R. Clausen, A.M., M. D.)—I have used Hagee's cordial of cod liver oil compound in my practice for some time past, and unhesitatingly pronounce it among the very best of tonics, reconstructives and digestives within the reach of the general practitioner. I cannot recall a case where I have prescribed it when the effects resulting were not immediate and satisfactory. I have yet to find a stomach that would not retain it, and where it has not assisted in the retention and digestion of other nutritives.

I have used it in advanced stages of consumption with the best results, and in other affections of the air passages and lungs, and can trace absolute cures to its use alone. I have prescribed it in connection with other remedies in the treatment of rheumatism with the most gratifying results, and have found it safe reliance in all cases of nervous prostration and general debility.

I recall one case in which the results following its use were little short of miraculous. The patient was a man of thirty-five years of age and when I was called in his case presented all conditions of incipient consumption. Through disease, overwork and neglect of himself his system had been completely shattered. He was reduced to almost a skeleton, was troubled with a cough, had hectic flushes and his digestive organs were badly impaired. After taking four bottles of the compound the cough left him, his appetite returned, he began to gain strength and to take on flesh. He is now attending to his business as usual, and assures me he never felt better.

While the effects in his case are the most remarkable I have to record, the results in several other cases are but little less astonishing, and I most heartily indorse Hagee's cordial of cod liver oil compound.

Philadelphia, Pa.

Mackenzol.—The climatic changes continually upon us during the fall and winter months in nearly every section of the country bring with them coryza and allied affections, usually attacking the person in a mild manner; in many instances, however, terminating in a chronic form of rhinitis. In the majority of these conditions a soothing and healing remedy is indicated; such as mackenzol applied with a probang or atomizer, the patient being advised to take deep inhalation, as the respiratory organs require a preparation of this character, oleo-balsamic in composition. Mackenzol is scientifically prepared by R. & F. Schweickhardt, and generally endorsed by the medical profession. It may be recommended to our readers as a curative agent wherever indicated in all nasal and bronchial conditions.

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EDITORIAL DEPARTMENT.

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DIABETES AMONG RAILWAY ENGINEERS.

Our knowledge of the true nature of diabetes is certainly limited. The etiology of this trouble certainly is broad and discursive. That it is a disease of manhood more than womanhood is plain, and that, too, of adult life. Hebrews and railway engineers certainly seem unusually prone to it. Heredity may have the controlling influence in the Semitic race, but there can be no doubt but that vocation in the latter is the essential cause. In the railway engineer we do not believe that it is lipogenic or dietetic, nor does it seem to arise from disturbance of the liver function; neither is it a neurosis—certainly not incidental to any damages in the circulation under nervous influences; but we are inclined to the belief that with engineers it is due to cerebral irritation arising from the peculiarity and conditions of his vocation. From a limited and imperfect investigation we have found that one in twenty of engineers we have examined had diabetes. We believe that, if closely investigated, it will be found to be even more numerous than this, particularly where the person has pursued this vocation for any great length of time. That it affects the old engineer, one who has pursued this vocation for some years, can be demonstrated readily. That it is infinitely more frequent among engineers than any other form of railway service is constantly shown. The habits and conditions engendered in the vocation of a railway engineer may serve to explain his proneness to this trouble. Thus the engineer, in following his vocation, sits upon his seat-box with one leg extended over to a foot-rest, while the lever is between his legs; his spinal column is constantly subject to the jolt and jar of the engine. This jolt and jar is transmitted up the spinal column to the brain, and it is rational and natural to suppose

that this jolt and jar more or less influences the brain and, perhaps, the fourth ventricle particularly. Certain it is that old engineers are prone to it, and firemen, owing to the fact of being in constant motion from cab to tender and rarely sitting for any length of time, are not. Our belief that it is cerebral irritation incidental to vocation and incidental to the peculiarities of position, creating cerebral irritation, seems well founded, particularly when the length of time of service seems to be a constant factor. The old engineer is prone to it; the young engineer rarely has it. Not the least interesting fact concerning the diabetes of the engineer is the ease with which it yields to treatment when rest, diet, and codein are used; but a return to vocation generally brings a return of diabetes. Its fatality among engineers certainly is not great. We know one engineer who has had the trouble for over eighteen years, and many from five to ten years. It is, indeed, rare to have this disease among the engineers cause apoplexy, particularly when upon the engine in the performance of duty. We know of no instance in our experience where these persons have dropped dead suddenly while on engine. Here is a line of thought which offers much; in any event, we are of the opinion that diabetes among railway engineers offers many points of interest, and through them some elucidation of the pathology of diabetes may be explained.

TUMORS OF THE CORPUS CALLOSUM.

It is somewhat of an unpleasant thought and reflection that in the diagnosis and consequent description of tumors of the brain how little is the knowledge of the physiologist used. Pathological evidences are generally passably well recorded, but the most essential of all description in brain tumors is generally left untold. In a recent article by Schaffer he records the collection of twenty-five cases of tumor of the corpus callosum—eight in women, seventeen in men. Most of the cases occurred after the fortieth year; the duration, as far as could be ascertained, was one year. The description of the mental condition in these cases is somewhat vague; thus the intellect was weakened along with defective memory and somnolence. He (Schaffer) is of the opinion that the mental disturbances are much more constant in tumors of the corpus callosum than in tumors of other parts of the brain. Convulsions occurred in eleven of these cases, while disturbances of sensibility were rare. He is of the opinion that mental changes being more constant in tumors of the corpus callosum, that when these occur it might be profitable to inspect the corpus callosum. He calls attention to the fact that in some cases of congenital absence of corpus callosum are not mentally deficient is explained by the presence of compensatory commissural fibers. The corpus callosum being the great transverse commissure interlacing the hemispheres together, certainly must have an important function, and the presence of a tumor in this part certainly must manifest markedly its presence. We believe that the opinion of Carpenter and other physiologists has not been definitely controverted, but stands as true. Concerning the function of the corpus callosum Carpenter says: "Cases have occurred in which this has been nearly or even entirely deficient in man; and it is significant that the chief defect in the character of such individuals has been observed to be a want of fore-

thought—i. e., of power to apply the experience of the past to the anticipations of future.” But then diagnosis in brain tumors has not reached a stage sufficiently explicit as to warrant surgical interference, unless detail and grouping of symptoms are unusually pronounced. The present training of the surgeon leads from explicitness to discursive principles.

THE RESULTS OBTAINED IN ANTI-RABIC INOCULATIONS.

The results obtained in the Pasteur Institute in Paris with the anti-rabic inoculations are certainly impressive and seemingly constant. No form of preventive medication can show any better or more gratifying results than have been obtained by these inoculations. We learn from the Paris correspondent of the *London Lancet* that “during the year 1898 there were 1465 persons who underwent the anti-rabic treatment at the Pasteur Institute. Of these four died from rabies, and in one case death occurred ten days after the conclusion of the treatment. (It is reasonable to suppose from experiments made upon dogs that the nervous system of persons who die from rabies within fifteen days after the conclusion of the treatment has been invaded by the virus of rabies before the treatment could take full effect.) Two patients developed rabies during the treatment and are not counted in the series of those treated. The figures are therefore as follows: Patients treated 1465, deaths three; percentage mortality 0.20. For preceding years the figures are as follows: 1886, patients 2671, deaths 25, percentage 0.94; 1887, patients 1770, deaths 14, percentage 0.79; 1888, patients 1622, deaths nine, percentage 0.55; 1889, patients 1830, deaths seven, percentage 0.38; 1890, patients 1540, deaths five, percentage 0.32; 1891, patients 1559, deaths four, percentage 0.25; 1892, patients 1790, deaths four, percentage 0.22; 1893, patients 1648, deaths six, percentage 0.36; 1894, patients 1387, deaths seven, percentage 0.50; 1895, patients 1520, deaths five, percentage 0.32; 1896, patients 1388, deaths four, percentage 0.30; and 1897, patients 1521, deaths six, percentage 0.39.”

THE USE OF SALINE INFUSIONS.

No remedy ever devised has accomplished as much for the treatment of shock as the injection subcutaneously of saline infusions. It has been a rare boon to the general surgeon incidental to the treatment of shock and collapse following operative procedure. But to no one has it proven to be of more value than to the surgeon who deals in the surgery of accident, particularly the surgery of railways. Its ease of administration and immediate result renders it an invaluable remedy which in consequence of its merits and value is gradually enlarging its function by being used by the general practitioner. In this country its use has extended with unusual rapidity, particularly in those cases where exhaustion is a factor. There can be no doubt as to its efficiency. Dr. Clement Penrose, of England, has been particularly well pleased with it “as a last extremity in severe cases of pneumonia.” We are inclined to the belief, from what we have seen, that when the material from which these saline infusions are made, common salt, that too much indifference is manifest. Admitted that hot water and salt are sterilized enough, still we maintain that care

in every detail adds to result, and that care of preparation and a true study of components will demonstrate that much improvement can come in the materials used. We have used in making our saline infusions the Mikuliez salt properly prepared by the chemist, since we cannot help but believing that any substance injected in such large quantities subcutaneously must be beyond suspicion. In our hands the Mikuliez salt has at least been an effort in conscientious care, and we maintain is in line with efficiency.

SUPPRESSION OF SMALL-POX IN COMMUNITIES.

Past Assistant-Surgeon C. P. Wertenbaker gives us a common-sense plan of organization for the suppression of small-pox in communities not provided with an organized board of health (*Public Health Reports*, October 29, 1899). First of all, one man—preferably a physician—should be at the head of the organization, and he may be called the “officer in charge.” He should organize the following divisions: First, headquarters; second, inspectors and vaccinators; third, small-pox hospital; fourth, suspect camp or detention house; fifth, guards; sixth, disinfecting corps. Each one should do his work conscientiously and well, for in no other way can an epidemic of this disease be kept under hand. Wertenbaker’s conclusions are:

1. It is advised that whatever measures are adopted, they should be made thorough.
2. Measures, good or bad, half done are worse than useless, as they give a fancied security.
3. Small-pox cannot be suppressed without the expenditure of money.
4. The more promptly you act, the less it will cost.
5. When in doubt, act on the safe side.
6. Finally, the following motto is offered for your banner in small-pox work: “*Isolate, Vaccinate, Disinfect.*”

PLAGUE STILL PREVALENT.

We note in *Public Health Reports* for October 20, 1899, that the plague is still prevalent in Port Louis, Mauritius. The U. S. Consul at that place reports the death of a prominent member of the Colonial Secretary’s office. A curious controversy seems impending in Mauritius which has arisen from the visitation of the plague. There is a turf club in Port Louis, under whose auspices yearly races are held. All the Indians, laborers, etc., are given a holiday on the last day of these races. It was claimed that by the congregation of these laborers in Port Louis on that day that the plague is usually spread among the townspeople. The Colonial Council has accordingly forbidden the holding of these races this year. This action has aroused the ire of the members of the turf club, who claim an indemnity for loss occasioned thereby, such as transportation of horses, jockeys, etc. The tradespeople of Port Louis are also up in arms and demand indemnity for purchase of increased amounts of goods which are usually sold on the Mauritius “derby day.” The colony is already overtaxed, and what the consequence will be has yet to be demonstrated.

LATENCY IN SYPHILIS.

It would seem as time comes and goes medical experience proves the definition of Fournier that "syphilis is a state of apparent health interrupted from time to time by short periods of disease"—a truism. Again, it has been constantly shown that one of the most dangerous periods in syphilis is that placid period where no symptoms are manifest, since it masks a period of undoubted activity. It is true in syphilis, as in many other things,

"That mightiest powers by deepest calms are fed,
And sleep how oft on things that gentlest be."

This period of "deepest calm" is frequently when grave lesions form and often place a patient beyond the pale of cure. When to stop the administration of remedies in this disease requires rare judgment. No disease afflicting mankind presents more serious and embarrassing denouements when medication has been stopped too prematurely. The opportunist is a poor medical adviser in syphilis, since if he only gives remedies upon a manifestation of symptoms, he leaves a dangerous period open to the inroads of this insidious trouble when remedies should be administered more persistently and conscientiously than ever. The stable experienced and safe ability in the medical profession are in unison that treatment should be kept up more or less for a whole lifetime, for once a syphilitic always a syphilitic—syphilis is like death: "stands behind the young man's back, before the old man's face." Any hidden symptoms of seemingly any disease in the syphilitic should be treated with anti-syphilitic remedies. All conscientious doctors can only do their whole and best duty by persisting in treatment, particularly in periods of deepest calm. The frank placing before a patient the urgent necessity of continuous treatment is necessary, particularly in the married and child-getting, since treatment at this time begets a seemingly untainted progeny. The least symptom of any disease in the syphilitic should be treated specifically. Careful and intelligent medication is at all times required in this trouble.

THE EFFICACY OF PLAGUE SERUM.

The obtaining of a therapeutic serum for the treatment of bubonic plague appears not to have met the fullest success. The antitoxic power of the serums thus far devised has not proven sufficiently powerful to warrant any hope of their positive therapeutic value. Until more powerful and more effective antitoxic serum is prepared no success can be obtained. The serum prepared by Gustin at the Pasteur Institute, at Paris, yet remains a doubtful quantity. The serum obtained from injected horses, thus far, has not sufficient neutralizing power to save infected rats. Much yet remains for the future bacteriologist to demonstrate; and as protective and curative measures, antitoxic sera are an unknown quantity, particularly as regards the bubonic plague.

THE MODERN CONCEPTION OF APPENDICITIS AND ITS TREATMENT.

Medical journals are full of the subject of reports of cases of appendicitis. In the discussions of medical societies this subject is given great attention. Among medical men it is a great theme for controversy. Alas, it has even crept into the lay press, and we find from time to time articles quite fierce in their attacks upon the "slaughtering surgeon" who operates in cases of appendicitis with the prompt death of the patient in the course of a few days. The little appendix vermiformis is an object of terror to both the youthful and adult lay mind, and visions of the fateful passage of a grape-seed or an apple-seed into this little functionless *cul-de-sac* serve to render the minds of many uneasy and cause harrowing sensations to creep up and down the spinal column at the slightest tinge of pain in the right hypochondriac region. Upon reviewing the literature upon this subject we are struck by the great diversity of opinion as to the proper treatment of this affection, in spite of the fact that the pathology and symptomatology of the disease are quite well understood by medical men. No wonder, then, that the lay mind should shudder at the thought of operative interference in a case of appendicitis, when the advisability for the performance of such an operation is still a matter *sub judice* among physicians. It seems that there are three classes of practitioners and surgeons in relationship to this subject of appendicitis. First, we have the class who believe in a strict medical treatment of all cases; happily, this class comprises but a few men, who belong to it for no other apparent reason than that their stand is different from that of all others. Second, we have the class who believe in a medical treatment at first, with opium, etc., in the hope of tiding the patient over the time when suppuration might set in, but who believe in operation later on when suppuration can be readily made out; for instance, with the aspirating needle. Third, we have the class who believe that an operation is indicated just as soon as we can make a positive diagnosis of the condition.

Reasoning from a standpoint of pathology, we can assert that the claims of the third class are those most compatible with good sense, with good judgment, and with good surgery. We know the nature of the anatomy of the parts; we know that once an inflammation has begun in the appendix vermiformis or its environment, constituting typhlitis or para-typhlitis or peri-typhlitis, that we cannot tell whether the process is to be walled off by the aid of the natural forces of resistance to inflammation resident in the normal organism, or whether the process is to spread with lightning-like rapidity to the whole peritoneal cavity, with the death of the patient even though operative interference should take place later. It has been asserted by many competent surgeons that the mortality from appendicitis operations should be less than one per cent.; there is no reason to doubt this assertion, provided we take into consideration the fact that operation should be performed before there is a spreading of the disease and before the forces of the patient are used up in the fight against the vitiating influence of an existing appendicitis. We take it that much of the popular prejudice against the performance of an operation in appendicitis is due to the fact that the lay mind is justly paralyzed with fear at the thought of a procedure which, in the hands of

some unskillful or tarrying surgeon, has cost them the life of some dear one, where prompt and timely interference would have meant a saving of life. Could we but make them forget such cases, and could we but convince surgeons to operate in time, there is no doubt that all popular prejudices would be swept away and that we should have more timely operations and a lessening in the mortality therefrom.

GRIPPE PNEUMONIA.

With the beginning of early winter we look forward to the annual outbreak of influenza in this region, and we can but survey our past seasons of this disease with regret, knowing full well that many of the difficulties to be encountered in the management of a case of grippe will again be with us, and that the strife for victory will be waged as vigorously as ever and, we trust, with more success on our part. Of all the complications of this troublesome malady, that one which is dreaded perhaps worst of all is pneumonia. We know that this is a comparatively frequent complication of grippe, and one that stands head and shoulders over all other forms of pneumonia—with the possible exception of tubercular pneumonia—in regard to difficulty in subjection with the usual medicaments at our command. Grippe pneumonia is a very serious affection and one that taxes the ingenuity of the practitioner. The temperature curve in this affection is strikingly different from that of all other pneumonias, and speaks for the anomalous aspects of the condition as seen in connection with grippe. The exhaustion and weakness which go with such a complication are trying upon both patient and physician, and make the medical attendant use every endeavor to tide the patient over the worst stages of the affection. In short, we have to deal with a condition that is not only a serious one, but which is coupled, in a case of grippe pneumonia, with the depressing symptoms of that disease. This explains more than anything why our efforts are sometimes either fruitless or lacking in some important points.

THE CURATIVE MECHANISM OF LAPAROTOMY IN TUBERCULOUS PERITONITIS.

This oft-discussed question still remains a theory; repeated endeavors at its elucidation have not demonstrated the purity of fact. Constant endeavor by experimentation in the laboratory upon inoculated animals has been used as a means to explain the mechanism of this cure upon persons affected with tubercular peritonitis after laparotomy. Hildebrand believes that the beneficial change upon tubercular peritonitis, from a laparotomy, is due to the exposure and irritation of the entrance of air by increasing the vascularity of the peritoneum, and a consequently quickened absorption. After a laparotomy in this condition there is more or less general hyperæmia, followed by venous congestion, with some distention and paresis of the bowel which is persistent for some time. Along with this hyperæmic condition a small amount of sero-sanguinolent fluid is found in the pelvic cavity; this is gradually absorbed after several days. It would seem that the success of the operation for tubercular peritonitis depends largely upon the period at which the operation is performed;

when it is done at an early period no advantage is gained, but at a more advanced period decided benefit follows. It has been noted by the general operator that a certain proportion of these cases tends to spontaneous cure; but what particular case or character of cases, yet remains hidden. It is not alone true as regards tubercular peritonitis, but equally true regarding sarcomatous growths of the abdominal cavity, that an entrance of air in the peritoneal cavity is followed by marvelous results. We yet remain ignorant of how to take advantage in the curative properties of air exposure following laparotomies. Arcangeli (*Il Policlinico*, September 1, 1899) suggests a theory based on the assumption that the action which follows laparotomy is very much the same as that which would follow the injection of some active immunizing substance, which he supposes to lie in serous exudation. From experimentations with injections of pleural effusions in cases of tuberculous pleurisy, and ascitic fluid in tuberculous peritonitis, he concludes that they have curative power in tuberculous peritonitis. This curative power he attributes to immunizing, since the older the effusion the better the result. On this theory the laparotomy acts by causing absorption of the peritoneal fluid and of substances contained in the old tubercles. That there is a menace and perhaps a positive objection to this form of treatment is indicated from the fact that fresh foci have followed these injections. It yet remains true that every case of tubercular peritonitis has a history unto itself, and until this history has been duly elucidated our curative efforts remain uncertain and erratic. The interpretation of individual cases is a pronounced barrier to success; the application of general principles does not reach to any uniformity in individual result.

THE USE OF THE VAGINAL DOUCHE, ANTE-PARTUM AND POST-PARTUM.

An article in the *New York Medical Journal* for June 10, 1899, by Dr. L. Napoleon Boston, of Philadelphia, succinctly gives us the situation upon the present aspect of the medical profession towards the use of the vaginal douche, ante-partum and post-partum. We know from daily experience mostly, and from medical literature partly, that the profession is divided upon this important point. From time to time we meet with physicians who invariably resort to the vaginal douche after labor, whether there is any indication for it or not. Their dominant idea is that the parts must be kept clean, and in order to follow out this idea they use the douche, and for no other apparent reason whatsoever. That there is a prime indication for the vaginal douche in some cases, just as there is for the use of the obstetrical forceps, the induction of premature labor, and other obstetrical procedures, is admitted beyond all peradventure of a doubt. The lamentable point in this assertion is that not all the profession is cognizant of it, and so we find the aforesaid practitioners using it in all cases.

We know that the vaginal secretion is endowed with antiseptic properties, due to the presence of the bacillus of Doderlien. We know that the vagina is covered at all times, and especially just before and after labor, with a tenacious mucous secretion, and it is in the virtue endowed by the tenacity of

this mucus that protection to the woman against infection is provided for by nature. Any pathogenic bacterium that seeks entrance into the uterus must first encounter this tenacious mucus. Needless to say, the mucus envelops the bacterium in its meshes, from which it struggles in vain to escape. The consequence is that infection is prevented and a state of *asepsis naturæ* exists. We can see how erroneous the principle is that the practitioner follows who uses the vaginal douche in all cases: he washes away this mucus from the vagina, and thus allows any migratory pathogenic bacterium that may chance to become lodged in the vagina to ascend into the cervical canal and set up a septic condition there. Even the presence of a discharge from the vagina is no indication for the use of a vaginal douche, unless by bacteriologic research we know that the discharge contains pathogenic bacteria—and let us say in this place that very rarely indeed is a discharge met with from the vagina that contains pathogenic bacteria. So say Kronig, Williams, Kelly, and Boston, and we will bow to their dicta, knowing the scientific basis upon which they are reared. Boston's summary of this subject is worth repetition:

1. A profuse leucorrhea during the later months of pregnancy is no indication for vaginal douching.
2. The chemical reaction of a discharge has but slight effect upon its antiseptic properties.
3. The vaginal secretions of pregnant women rarely, if ever, contain pathogenic germs except gonococci.
4. Vaginal douches favor the development of cervical gonorrhea and puerperal sepsis.
5. The vaginal secretions may contain streptococci, staphylococci, diplococci, and bacilli, all of which may be non-pathogenic.
6. A discharge from the uterus may show the presence of pathogenic bacteria after all other symptoms of sepsis have disappeared.

CITY HOSPITAL ALUMNI MEDICAL SOCIETY.

The Medical Society of City Hospital Alumni of St. Louis is doing all that is to be expected of an up-to-date medical society in the way of scientific work. Its programs show a high order of medical work, and the papers read are worthy of commendation. The discussions elicited from the reading of such papers are essentially praiseworthy, and valuable evenings may be spent in attendance upon the meetings of this society. The membership in the society is limited to men who have served in the City Hospital as assistants or superintendents, and the efforts of these men, as seen in their papers and discussions, will demonstrate how hospital experience caps the climax of a good medical collegiate course in the professional careers of modern medical men. St. Louis may well be proud of such a society, for it represents much of all that is good, much that is scientific, and a great deal that is hard-working in the local profession.

REFORM SHOULD BEGIN AT HOME.

An attempt is being made by certain members of the local profession to create an organization for the purpose of driving osteopathy

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from Missouri. Failure can be the only result of such an effort. There are many reasons for failure in this project.

In the first place, the regular medical profession can do nothing without a union of forces with the homœopaths and eclectics. The average member of the average legislature cares nothing for medical creeds and schisms. The dogmas of doctors strike him as a merry jest. It is doubtful whether many of the followers of Hahnemann and Scudder will assist in dragging any one's chestnuts out of the fire.

Secondly, supposing that a union can be made with these gentlemen who have been so long regarded as "irregular," are there not greater evils than osteopathy to be conquered? Would it not be well to bring about, first of all, a reform in the matter of medical education? What about those medical colleges in Missouri which have made such an eloquent plea in years past for higher education and yet profess to have a four-years' graded course while still graduating students on three terms of lectures? And what of the schools professing to have a high standard of preliminary requirements and are still conferring the degree of Doctor of Medicine on illiterates?

And what of the gentlemen who assist in the manufacture of midwives? Are the midwives a detriment or a benefit to the State?

The most certain way to kill medical delusions and superstitions is to leave them alone. The whole history of the medical profession shows that whenever the "regulars" have fought what they believed to be a false system that system has prospered. This was true of Rasorianism, of Thomsonianism, of Eclecticism, and of Hahnemannism.

In view of these and many other matters which might be mentioned, will it not be well to begin reforms at home?

THE TRI-STATE MEDICAL SOCIETY.

The next meeting of the Tri-State Medical Society of Iowa, Illinois and Missouri will be held in St. Louis early in April, 1900. The sessions will be held in the Planters Hotel. It is unnecessary for the INTERSTATE MEDICAL JOURNAL to call attention to the importance of this meeting. St. Louis, although centrally located, has had but few gatherings of national importance to the medical profession; and often the local physicians have been too busy to attend the societies which have met here. This statement, however, does not apply to the Tri-State, which has twice met with a generous reception by the St. Louis doctors. The coming meeting will be one of the very best ever known in the history of the Tri-State Medical Society. Many of the representative physicians and surgeons of Chicago, Kansas City, Cincinnati, Louisville, and many smaller towns will be present, while the scientific contributions already promised are especially fine.

The INTERSTATE MEDICAL JOURNAL welcomes the members of the Tri-State Medical Society and their friends to St. Louis.

ORIGINAL ARTICLES.

THE HEPATIC COMPLICATIONS OF TYPHOID FEVER.

BY R. B. H. GRADWOHL, M. D., of St. Louis,

Bacteriologist to the St. Louis City Hospital, Etc.

THE hepatic complications of enteric fever have of late been made the subject of especial study by workers in the domains of internal medicine, surgery, and bacteriology. That the bacillus typhosus is capable of exciting organic disturbance in nearly every part of the human organism is a question that seems to be a matter of fact, beyond all peradventure of a doubt. In support of this statement I may call attention to the occurrence of typhoidal pneumonia, typhoidal pleuritis, typhoidal meningitis, typhoidal arthritis, typhoidal nephritis, typhoidal cystitis, typhoidal cholecystitis and cholelithiasis, typhoidal hepatic abscess, etc. Modern medical literature is fairly well filled with reports of the varied complications of typhoid fever, due in most instances to selective local reactions set up by the actual presence of the bacillus typhosus in such parts.

It would seem very natural to suppose that the liver and gall-bladder would be frequently implicated in typhoid fever. By natural proximity we could easily understand how a typhoid infection of the small intestine could travel into the gall-bladder and liver by way of the portal system. And we know that suppurative cholecystitis has been recognized as one of the complications of typhoid fever ever since the time of Louis, although a bacteriologic demonstration of the fact that the suppuration is due to a local infection with the bacillus typhosus was not made until many years after Eberth and Gaffky's discovery of that micro-organism. Gilbert and Girode¹ reported the first case on record of cholecystitis caused by the invasion of the bacillus typhosus, as demonstrated by cultures. Welch and Blachstein² noticed the quite constant occurrence of the bacilli in the gall-bladder in cases of experimental inoculation of typhoid fever in rabbits. This fact led to the routine examination bacteriologically of the bile in fatal cases of typhoid fever at Johns Hopkins Hospital, and Flexner found in fifty per cent. of the cases a pure culture of the typhoid bacillus. There are at present about ten cases on record of post-typhoidal cholecystitis associated with gall-stones which have been operated upon and the bacillus typhosus isolated. Hunner³ has given a tabular report of these cases, including one of his own. Thus we can appreciate the fact that the bacillus typhosus is a not uncommon cause of cholecystitis. In this connection it might be well to speak of the rôle enacted by the bacillus typhosus in the production of gall-stones. In 1890 Welch⁴ demonstrated

¹ Gilbert and Girode: Contribution à l'étude bactériologique des voies biliaires. Comptes rendus de la Soc. de Biologie, 1890.

² Johns Hopkins Hospital Bulletin, 1891, vol. ii.

³ Johns Hopkins Hospital Bulletin, August-September, 1899.

⁴ Also Naunyn: New Syd. Society, 1896. Also Hanot (quoted by Dauriac): Gaz. Heb. de Med. et de Chirurg., July 25, 1897.

the presence of micro-organisms in the center of gall-stones, and suggested that they might have been the starting-point for the deposition of the biliary salts. In cases of post-typhoidal cholecystitis, clumping of the organisms has been noticed in the bile. The same phenomenon was noted by Nichols, working Welch's laboratory, in experimental typhoid in rabbits after intravenous injection. This reaction is akin to an agglutinative reaction of the typhoid bacillus. These clumps of bacteria may become the starting-point for the deposition of bilirubin calcium salts, and the origin of stone. Cushing⁵ gives a summary of the whole situation: (1) The bacilli during the course of typhoidal infection quite constantly invade the gall-bladder; (2) the organisms retain their vitality in this habitat for a long period; (3) in the course of time the bacilli are almost invariably found to be clumped in the bile, suggesting the occurrence of an intravesical agglutinative action; (4) these clumps presumably represent nuclei, for the deposit of biliary salts, as micro-organisms, may with regularity be demonstrated in the centers of recently formed stones; (5) gall-stones being present in association with the latent, long-lived, infective agents, an inflammatory reaction in the viscus of varying intensity may be provoked at any subsequent period. This clumping is also true of colon bacilli, which often set up a cholecystitis. Gilbert and Fournier⁶ divide biliary lithiasis into two great pathological groups: lithiasis due to colon bacilli, by far the most common, and lithiasis due to typhoid bacilli.

Having then discussed the havoc wrought by the typhoid bacillus when it chances to invade the gall-bladder, let us consider the question of supuration within the parenchyma of the liver substance. We know that solitary or "tropical" abscess of the liver is frequently found in association with dysenteric infections. Osler⁷ says that abscess of the liver (embolic or pyemic) results from infection through the portal vein much more commonly than through the hepatic artery. It results from dysenteric and other ulcerative affections of the bowels, appendicitis, *occasionally after typhoid fever*, in rectal affections, and in abscesses in the pelvis. Tyson,⁸ in discussing this subject, says that most abscesses of the liver arise by infection from the portal area. These are either thrombotic, embolic or amebic. The thrombotic are caused by infectious thrombi, which, starting in the venules of the area drained by the portal vein, extend thence to the branches of the portal vein in the liver, where a suppurative pyelephlebitis is started. Such an area is the colon which is the seat of dysentery, or the rectum by its hemorrhoidal veins, or the neck of the bladder. More frequently a fragment of such a thrombus lodges in a branch of the portal vein and starts an abscess, constituting the "embolic" origin. Or the *ameba coli*, which is the cause of amebic dysentery, is transferred from its primary seat in the intestines into the liver. Embolic abscesses may also arise from emboli arising in the left heart, pulmonary or systemic circulation, reaching the liver via the hepatic artery. A non-infectious embolus may excite an abscess if brought into association with pyogenic organisms entering the liver in another way. Such organisms may enter the liver through the common duct from the alimentary canal. This is probably the route of the organisms causing suppurative cholangitis.

⁵ Cushing: Johns Hopkins Hospital Bulletin, May, 1898.

⁶ Gilbert and Fournier: Compt. rendus Soc. de Biol., November 5, 1897, p. 936.

⁷ Osler: Practice of Medicine.

⁸ Tyson: Practice of Medicine.

Many cases of hepatic abscess have been reported, and we often hear of different etiologic factors. For instance, Berger⁹ describes a case of abscess of the liver in which the symptoms appeared six years after the man had suffered from tropical dysentery. Operation resulted in cure. H. Jackson describes a case that had symptoms of appendicitis three years before the time of the report, and when admitted to the hospital, shortly before death, was septic, and was believed to have abscess of the liver. At the autopsy multiple abscesses were found, which seemed to be due to infection from an old suppuration about the appendix. In a second case the patient died of abscess of the liver, which was found after death to be, probably, amebic in origin, and was associated with chronic ulcers of the colon.

I think that too much stress has been laid upon the *ameba coli* as an etiologic agent in hepatic abscess. We know that the *ameba* is often found in dysenteric conditions of the bowels and yet it is not present in an abscess of the liver, which it is ostensibly said to have produced. L. L. Bertrand,¹⁰ after a study of the work of others and some experimental work of his own with various bacteria, reached the conclusion that *dysentery* is not caused by any specific infection, but is a polybacterial infection, and may be produced by various micro-organisms—such as the colon bacillus, streptococcus pyogenes, staphylococcus pyogenes aureus, and the bacillus pyocyaneus. Micro-organisms exist in the air, in the water, and in the soil, and may reach the subject either by inspiration or by swallowing, and may remain latent until some lesion of the intestinal mucous membrane permits them to become pathogenic. Bertrand speaks very cautiously of the pathogenicity of the *ameba coli*, and considers that its power of producing disease has been accepted with some precipitancy. F. Roemer¹¹ examined the stools of nineteen patients, fifteen of them adults with dysentery, two adults with enteritis, and two children with dysentery. All of the nineteen patients had the *ameba* in the stools; but since there was no difference in the form of these parasites in the cases of enteritis and in those of dysentery, the author does not think that this is evidence that the *amebae* are the cause of dysentery, and he believes that there is no definite proof that the *ameba coli* can produce dysentery. He says that the strongest point advanced in favor of their pathogenicity is their presence in liver abscesses. We know, however, that their mere presence alone in hepatic abscess is not sufficient proof of their pathogenicity, because other bacteria are often found associated with them. Undoubtedly we may believe correctly that the *ameba coli*, *per se*, is not capable of causing the processes which have been hitherto ascribed to its agency; but that it depends in a large measure for its pathogenicity—if it has any at all—upon the association of other pathogenic micro-organisms.

Coming back, now, to the matter of typhoidal hepatic complications, let us follow Osler's description of such complications. He describes¹² hepatic complications of typhoid fever under four heads; the first being the focal necrosis, which gives rise to no symptoms, though it is possible

⁹ Berger: Gaz. Hebdom. de Med. et de Chir., July 18, 1897.

¹⁰ L. L. Bertrand: Rev. de Med., July, 1897.

¹¹ F. Roemer: Tr. Clin. Soc., vol. xxix., p. 45.

¹² Osler: Edinburgh Med. Jour., November, 1897.

that it may cause icterus gravis, or might subsequently lead to cirrhosis. The second complication, jaundice, is very rare; Osler saw no cases in his first five hundred at the Johns Hopkins Hospital. The third complication is *abscess, which is rare, solitary abscess and that due to suppurative pyelephlebitis being particularly rare*, though it is somewhat more common when secondary to the complications of the disease. The most common hepatic complications are affections of the bile passages.

I desire to narrate the clinical history, *post-mortem* report, and bacteriologic report of a case of *post-typhoidal hepatic abscess*. This case was seen by me in the medical ward of the City Hospital, and the bacteriologic work, etc., was carried on in the laboratory of bacteriology of the hospital.

CLINICAL HISTORY.

P. K., aged forty-four years; native of Ireland; laborer by occupation; widower; admitted to hospital August 28, 1899. Owing to patient's deafness, it was impossible to obtain either a record of a family history, previous personal history, habits, etc. I learned subsequently (after his death) that he had had an attack of typhoid fever six years before his admission to the hospital.

The general picture was that of an individual in extreme emaciation, with an evening rise of temperature and a morning fall, but not a fall to the normal. He perspired constantly; vomited everything put into the stomach; semi-stuporous all the time. He presented enlargement of the liver downwards and to left. A thick brown purulent fluid was withdrawn by means of exploratory needle and syringe-introduced at the fourth interspace on the right side. More thorough physical examination revealed the enlargement of the liver as follows: Hepatic dullness extended from fifth rib in right mamillary line to four fingers' breadth below free costal margin; great tenderness over liver; great dyspnœa. It was decided upon to remove more of fluid, but the patient succumbed before operation could be performed.

Necropsy, held on following morning, revealed the following conditions: Cadaver that of white man; fairly well muscled, but exhibiting much wasting; color of skin yellow-gray; marks of four punctures are visible on right side; scleræ are slightly tinged; peritoneal sac filled with murky, serous, orange-red fluid; no fibrin visible; the parietal peritoneum has lost its luster; it is covered with very thin layer of fibrin; liver extends four fingers' breadth below free costal margin; stomach distended; thin fibrinous adhesions between stomach and liver; small intestines are covered with fibrin; vessels injected; fine adhesions between liver and diaphragm; diaphragm extends to fifth rib on left side and to fourth rib on right side; there is a slight degree of pleuritis dextra. Condition of acute bronchitis and hypostatic congestion of both lungs. The spleen is greatly enlarged, and very soft. Interstitial nephritis of both kidneys.

Liver.—Dimensions are 34 cm. x 20x9. About one-half of liver tissue is supplanted by an abscess cavity. Trabeculæ traverse it. It contains a thick creamy pus, partly stained with bile in places. Gall-bladder contains no stones. Small intestines show no pathologic changes.

Anatomical Diagnosis.—Hepatic abscess.

BACTERIOLOGIC REPORT.

Cultures were taken from the spleen, liver, gall-bladder, lungs and kidneys. Cultures from the spleen were sterile. Cultures from the kidneys gave a growth of bacterium coli communis; those from the lung showed the micrococcus lanceolatus; those from the gall-bladder showed the bacterium coli communis. Cultures from the pus from hepatic abscess gave a motile bacillus, corresponding in all particulars to the bacillus typhosus; it was motile, decolorized according to Grams' method; grew invisibly on potato; gave no gas-production in glucose—bouillon; did not turn litmus—milk red; grew in characteristic manner on agar-agar; did not liquefy gelatin; produced no indol in Dunham's peptone solution; grown on Hiss' special medium, it showed typical colonies with filamentous outgrowths. It stained readily with basic stains and flagella were easily demonstrable. With blood obtained from a patient in the medical ward in which Widal reaction was positive, these bacilli were "clumped" in a dilution of one to fifty in fifteen minutes. From these findings a bacteriologic diagnosis of bacillus typhosus was made. From our view of what has been said we can conclude that—

First.—The bacillus typhosus may excite suppuration within the gall-bladder or liver substance.

Second.—The bacillus typhosus may remain dormant for years in such tissues without doing appreciable damage, and then may set up a severe inflammation, suppurative or otherwise.

Third.—The *ameba coli* is not so often the specific etiologic factor in a dysentery and hepatic abscess as it is so commonly supposed to be.

Fourth.—Bile is not an antiseptic fluid, for if it were it would not tolerate the presence and growth of the various bacteria so often found in the gall-bladder—notably the bacillus typhosus.

Fifth.—The nucleus of gall-stones is often nothing more nor less than "clumped" colon or typhoid bacilli.

Century Building.

Peppermint from Sewage Farms.—Peppermint is reviving the drooping spirits of the depressed agriculturist. So profitable has the Sutton Urban District Council found its cultivation that it has determined to add two more acres to the area at present devoted to that fragrant plant. The body mentioned has paid great attention—more than most local authorities—to the utilization of sewage, and peppermint is one of the products of the land where this is turned to profitable account. Last year there were four acres under cultivation. When the plant is cut and dried the leaves are distilled, and the oil thus obtained finds a ready market. The yield of this odorous liquid was one hundred and nineteen pounds, the value of which amounted to £145 15s. 6d., or £36 8s. 10d. per acre. Considering all circumstances, this result is highly gratifying.

OTITIS MEDIA—DIAGNOSIS AND TREATMENT.¹

BY M. A. GOLDSTEIN, M. D., of St. Louis,

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GENTLEMEN:—In accepting your kind invitation to present a paper to the McDowell Medical Society, it was a question of some import to decide what subject in the range of otology would be most acceptable to you.

The general caption "otitis media" has been selected, first, because of the wide range in otology which this section with its pathology and therapy covers; also because the affections of the middle ear are of most frequent occurrence in the practice of the general practitioner.

It is not my purpose to offer any innovations in treatment or to describe pathological details, but rather to summarize in a practical way the various forms of middle ear disease and their approved therapy.

For clinical purposes we divide the diseases of the middle ear cavity first into catarrhal and suppurative; further, into acute and chronic forms. Clinically considered, this classification is simply an arbitrary one, for, as a rule, suppurative conditions of the middle ear cavity are the sequelæ of the catarrhal forms, and the main difference between acute and chronic forms of middle ear catarrh is that of time and duration.

Let us begin the clinical chain in this class of diseases with the consideration of acute middle ear inflammation, or, as it is more commonly known, earache. The symptom which first brings us in contact with our patient is pain, varying in character, frequently coming on suddenly, and rapidly increasing in intensity. Pain is especially aggravated in the cases of children, frequently accompanied by fever, delirium and intense nervous excitability. On examination of the ear the drum membrane presents an intensely hyperemic picture, indicative of acute inflammatory reaction. If seen a few hours after the development of an acute otitis media, no change in condition of the drum membrane may be observed, unless it be that of slight retraction, due to the diminishing of the air supply to the middle ear cavity by the narrowing of the caliber of the Eustachian tube with the onset of the inflammation. An effusion of serum and mucus into the tympanic cavity is the next step. The accumulated fluid contents, when the limit of capacity of the tympanic cavity is reached, bulge the membrane outward, the convexity depending mainly on the quantity of fluid contained within the cavity.

When inspection reveals this intense convexity of the drum, with a red, deeply injected surface appearance, paracentesis is emphatically and always indicated, the object of this incision being to relieve the middle ear cavity of its pent-up fluid contents and inflammatory products, and also to save the drum membrane from a spontaneous natural rupture, which takes place as soon as the pressure exerted by the fluid can over-

¹ Paper and clinic presented by invitation to the McDowell Medical Society, California, Missouri, June 22, 1899.

come the resistance of the delicate drum membrane. By this incision of the drum membrane we evacuate the middle ear cavity, we relieve the pressure and hence the pain, and we save the drum membrane from perforation.

An incision of this elastic tissue invariably heals in a short time, and all efforts which aural surgeons have thus far made to maintain a mechanical opening in the drum membrane have proven futile. The spontaneous perforation made by efforts to relieve the accumulated fluids in the middle ear cavity are frequently of a different character and the ensuing perforation is more or less permanent, especially if suppuration follows in the wake of the acute inflammatory process and the edges of the perforation gradually slough and are thinned down. In consideration of the question of perforations in the drum membrane, it might be opportune to say that in children, even when spontaneous rupture of the membrane takes place and suppuration continues for some time, there is still every possibility for the active tissues of this area to repair the parts and close the perforation.

We will assume then that perforation has taken place either spontaneously or by paracentesis, and that the tympanic cavity has been fairly drained of the early serous and mucous products of inflammation.

When influenza or any of the exanthemata are etiological factors in acute inflammation of the middle ear, the destructive process in the tympanic cavity is much more intense and the effusion of serum and mucus is accompanied by exfoliation of the epithelium and rupture of the blood vessels contained within the tympanic cavity, causing a tinge of blood in the discharges which find their way into the external canal.

Among other causes of acute earache may be mentioned, in the order of their frequency, "cold in the head" and inflammation of any portion of the upper respiratory tract, eruptive fevers, "draughts," exposure to the wet, bathing, the use of cold fluids in the nose, and the pernicious habit of picking the ears with tooth-picks, ear-spoons, matches and like contrivances. In the latter case the inflammation of the ear is induced from without; in all of the other cases enumerated, the inflammatory process develops from the naso-pharynx along the Eustachian tube. It may be stated that over eighty per cent. of diseases of the middle ear cavity are the result of an extension along the mucous membrane from the naso-pharynx via the Eustachian tube to the tympanum. When it is considered that the mucous membrane of the nose, the posterior nares and pharynx, the Eustachian tube, and the middle ear cavity is really one and the same mucous tract, we can readily appreciate why inflammatory reactions occurring in the nose and throat are so readily transmitted to the middle ear.

Unless resolution and the subsiding of the inflammatory reaction takes place shortly, the next step in our clinical chain is reached and we have the passing from the acute catarrhal otitis media to the acute suppurative form. Clinically and practically the only difference between the catarrhal and the suppurative forms of acute otitis media is the presence of pus. With the advent of the suppurative form the tissue changes which take place in the tympanic cavity are more intense than in the catarrhal form; purulent infiltration of the tympanic cavity ensues, and the various de-

structive changes which accompany pus formation and the presence of pyogenic micro-organisms are possible.

In healthy subjects and patients of good habits the prognosis in acute suppurative otitis media, under careful treatment, is good. When tuberculosis, syphilis, diphtheria, or scarlet fever are causative factors, the prognosis is less favorable.

Chronic suppurative otitis media is the sequel of an uncured acute suppurative otitis media, and offers numerous difficulties which follow in the wake of a progressive destructive process. This form of middle ear disease is not self-limiting, and frequently requires the most active and radical measures for its relief.

Here the contents of the tympanic cavity are constantly bathed by purulent secretion, the soft tissues are subject to more or less sloughing, and with the now denuded lining membranes, the underlying bony structures, the walls of the tympanum, the ossicles, the attic, and antrum of the mastoid area and the mastoid cells themselves stand in imminent danger of an attack from this same destructive, purulent inroad. Among the sequels of chronic otitis media are caries of the ossicles, facial paralysis, mastoiditis, phlebitis, sinus-thrombosis, meningitis, subdural abscess, pyemia, and abscess of the brain.

Of the chronic, non-suppurative inflammations of the middle ear two forms are recognized: one the hypertrophic or secretive, and the other the sclerotic or adhesive middle ear catarrh.

Hypertrophic catarrh of the middle ear is usually associated with similar pathological changes in the nose and naso-pharynx. Chronic naso-pharyngeal catarrh, adenoid growths, and hypertrophy of the faucial tonsil, especially in children, are the main etiological factors in the hypertrophic form. The mucous membrane lining the Eustachian tube assumes the same hyperemic condition as that found in chronic nasal and post-nasal hypertrophy. The tube is narrowed in caliber, the supply of air normally furnished to the tympanic cavity is cut off, and as the outer atmospheric pressure on the drum is maintained at its natural standard, the membrana tympana is forced inward towards the posterior wall of the tympanic cavity, and an excess of serum and mucous secretion are poured into the already diminished caliber of the tympanic cavity. With the continuation of this hypertrophy and its many accompaniments the drum head becomes thickened and opaque, and adhesions by fibrous bands and tissues of the membrana tympani to the posterior wall of the tympanum and ankylosis of the ossicles become imminent.

As atrophic rhinitis may be considered the sequel of hypertrophic rhinitis, so sclerotic or adhesive otitis may be regarded as the sequel of hypertrophic otitis. Here ankylosis of the ossicles, calcareous deposits and fibrous adhesions of the drum membrane take place. The sclerotic form is usually bilateral in its invasion and occurs in adult life. In the symptomatology of this affection tinnitus aurium is the most important factor. Here ringing in the ears may be found in its most intense and varied forms, and as yet all our therapeutic efforts have not been productive of successful results in relieving this disturbing symptom. With this general summary of the several forms of otitis media, we proceed to the consideration of the therapy which I have found of most practical value.

If we are called in time to a case of acute non-suppurative middle ear catarrh, before effusion has taken place in the tympanic cavity and when the inflammatory process is in its incipiency, we can usually abort the attack by gentle Politzerization, to maintain the patulancy of the Eustachian tube and supply the necessary volume of air to maintain a balance in the tympanic cavity; the instillation of a few drops of hot carbolized vaseline; the application of a few leeches to the tragus and behind the auricle to relieve the vascularity of the parts, a brisk purge and hot foot-bath, and a hot application, either dry or moist, to the involved area.

Let me emphasize the fact that when effusion has taken place in the tympanic cavity (recognized by the bulging of the drum membrane or the presence of the fluid as seen through the translucent membrane) Politzerization is distinctly contra-indicated. Especial stress should also be laid on the careful and thorough cleansing and medication of the nasal canal, posterior nares and pharynx. If the source of the trouble is an acute inflammation of the pharynx, faucial tonsils, or nasal mucous membrane, detailed attention should be given to the relief of these irritating factors.

In sore throats, scarlet fever, measles and diphtheria, especially in children, the importance of a careful local treatment of the throat is frequently underestimated. Until the source of infection responsible for the middle ear infection is under control we cannot expect to relieve the inflammation in the ear.

The treatment which, in my experience, has afforded the best results in the nose and naso-pharynx, is the palliative one. I invariably spray this area with the antiseptic mild astringent combination of camphor, menthol and eucalyptol, in an oily menstruum. This may be one of the several forms of purified liquid vaseline or, as I prefer it, solid unguentum petrolatum, heated until fluid in the bowl of a metallic atomizer, and in this the concentrated solutions of the aforementioned drugs are incorporated.

This is sprayed both in the posterior and anterior nares, and thus an oily coating is applied to the inflamed and irritated mucous membrane.

My preference in using an oily menstruum in sprays rather than an aqueous one is that the spray thus projected is more soothing to the congested membrane, is maintained for a long time in this position, and affords a medication more lasting in effect and in strength.

If we are dealing with the inflammation of the faucial tonsil, either follicular or parenchymatous in character, more energetic local therapy should be instituted. Each follicle should be thoroughly evacuated of its cheesy or purulent contents by a small curette, and the crypts thus cleared should be individually touched with the following solution carried on the tip of a small cotton swab:

℞	Liquor ferri chlorid.....	5 i
	Glycerine.....	3 j

or

℞	Pinus canadensis extr. (Kennedy).....	5 ij
	Glycerine.....	5 ij

In parenchymatous inflammation of the tonsil the whole surface should be vigorously swabbed with the preparation. If the tonsil is much

swollen, and the surface appears tense to the touch, free incision is indicated, both to relieve the tension and thereby the pain, and also for the purpose of local blood-letting and the relief of congestion.

When pus is present the H_2O_2 (hydrozone) or hydrogen dioxide (Oakland) may be freely used.

In the various forms of acute tonsilitis my best results in internal medication have been obtained with the saturation of the system by benzoate of soda or the administration of tincture of chloride of iron, in ten-drop doses every two or three hours.

Adenoid vegetations, hypertrophies or septal spurs, polypi, and other new growths in the nasal passages require operative interference.

I have already expressed myself regarding free incision of the membrana tympana when the bulging of the membrane presents, or when small perforations of the drum are found and the free exit of the purulent contents of the tympanum is obstructed.

Evacuation of the contents of the tympanic cavity may also be hastened and promoted by aspiration and inflation. For aspirating the pus from the middle ear cavity I use a Siegel speculum in conjunction with a small piston syringe. The speculum is fitted tightly into the auditory canal and the piston slowly drawn, under illumination by a head-mirror. The effect of this suction is to draw the pus from the middle ear cavity through the existing perforation.

After the nasal cavities have been thoroughly cleansed and medicated I apply either the Politzer bag or the continuous form of inflation, which may be accomplished by Buttell's inhaler or some modification thereof in the following manner:

The patient is directed to blow through a small-calibered tube placed between the lips. During this gentle and steady blast the Buttell inhaler is applied to the nostril, the other nostril closed with the finger of the operator and the pressure from the air compressor is directed uniformly by means of a regulating valve. Blowing through the small-calibered tube produces the same physiological action as that obtained by swallowing or by the use of the word "hic" as originally suggested by Politzer and Gruber, respectively. By the application of this continuous pressure the pus is evacuated through the perforation of the drum with a whistling or sizzling noise.

I emphatically advocate the dry treatment for the cleansing of the middle ear cavity in preference to the use of syringe or douche. I decry the use of the nasal douche, especially when in the hands of the patient himself, under any and all circumstances.

I have also discarded the use of the syringe in cleansing the ear, because the same results can be more satisfactorily accomplished by the dry treatment. Copious lavage and the introduction of aqueous fluids into the middle ear cavity, especially where large perforations of the drum membrane exist, and where the fluids come in direct contact with the sensitive and inflamed mucous membrane, will produce exactly that sudden condition which it is our object to avoid; namely, bogginess and infiltration of the mucous membrane.

In the therapy of middle ear suppuration, we aim to remove pus and other fluids from the infected cavity, and this purpose is certainly thwarted

by the liberal use of the syringe and other forms of irrigating the auditory canal and middle ear. The small tuft of sterilized cotton on the tip of the cotton-carrier, gently applied as a mop to absorb the mucus or purulent excretions from the ear, will, in the majority of cases, cleanse the canal to the fundus more effectively than will a large current of antiseptic fluid.

Where a large perforation of the drum membrane exists, as is usual in the majority of cases of chronic suppurative otitis media, there is an additional danger in the free use of the syringe of forcing some of the fluid into contact with the remote and healthy areas of the tympanic cavity, and thus carrying some of the purulent discharge and fresh infection to another point. It may, perhaps, not be unreasonable to conjecture that frequent mastoid infection has resulted from the freedom with which the syringe is handled in the treatment of suppurative otitis media.

After cleansing the ear, a non-irritating, antiseptic, impalpable powder should be insufflated in the auditory canal. Boracic acid has long been the popular medication for this purpose. Boracic acid, however, is but a mild antiseptic at best, and experience has frequently proven it important to combat the case at issue. Iodoform has also held rank as a dry dressing in aural surgery, but its objectionable odor, its stimulation of granulation tissue, and its caking tendency detracts from its value in aural practice.

As an efficient antiseptic, insoluble powder, with no tendency to cake, non-irritating when in contact with delicate tissues, and offering but a minimum of toxic absorption, Nosophen seems to supply the demand, and I have substituted it for boracic acid and iodoform with excellent results.

The only fluid medications which I use liberally and freely in the treatment of suppurative otitis media are absolute alcohol for reducing granulations and peroxide of hydrogen in destroying pus and muco-purulent secretions. In the application of these fluids I use the medicine dropper in preference to the syringe, shifting the head of the patient to bring the solutions in contact with a given area.

Of course, where a suppuration of long standing has resulted in necrosis, a considerable destruction of the soft tissues of the tympanum or involvement of the mastoid area, more radical therapy, and especially surgical measures, must be adopted. Where ossicular necrosis has been established, suppuration will not cease until the irritating ossicle has been removed.

Granulations and sanguinous, foul-smelling pus are indicative of bone involvement, and prompt interference is necessary to prevent further inroads. Granulations may be reduced, either by repeated instillations of saturated solution of boracic acid in alcohol, or by curettement and packing with narrow strips of gauze.

The non-suppurative chronic inflammations of the middle ear tax the mechanical skill and knowledge of therapy of the aurist to the fullest extent.

Here it should be our purpose to restore, as nearly as possible, the normal functioning of the parts involved. If we are dealing with a retracted drum membrane and concomitant narrowing of the caliber of the Eustachian tube, our attention should be directed to reducing the

hypertrophy or inflammatory swelling of the mucous membrane at the naso-pharyngeal orifice of the tube and of the entire naso-pharyngeal tract.

To restore the retracted membrana tympani to its normal position and to renew the air of the tympanum, we employ one of several forms of forcible inflation. The most efficient of these are Politzerization, the use of the Eustachian catheter, and continuous inflation. Of these I prefer continuous inflation, and will take occasion to demonstrate its advantages clinically.

A therapeutic agent which has gained much favor recently, and which I regard as a valuable adjunct, is the use of nebulized vapors in conjunction with compressed air inflation. This serves the two-fold purpose of inflating the middle ear cavity and applying effective medication to the mucous membrane. My preference of apparatus is for the Globe hand Nebulizer, and this may be used with the nasal tip or with the Eustachian catheter. (Clinical demonstration.)

Another valuable mechanical adjunct in the treatment of the retracted drum membrane and for the diagnosis and treatment of adhesions is the aural massage. This is generally effected by the use of the Siegel pneumatic speculum or one of its several modifications. The latest aspirant to honors in this direction is the compressed-air engine of Wigmore, which I will take pleasure in demonstrating to you.

In this general survey of the subject of otitis media time and space will not admit of my going into details, but I shall be pleased to develop some of these points by clinical demonstration.

I have perhaps presented no new or radical suggestions, but have endeavored rather to chronicle a few individual experiences as they are encountered in daily otological practice, and have offered a summary of the approved therapeutic measures adapted for the relief of this class of cases.

3702 Olive street.

The Deterioration of Brandy.—It appears that the decline in the popularity of brandy is not without good reason. At the congress at Blackpool, Sir Charles Cameron, who, with Professor Smith, has made a complete study of the subject, has declared that no modern brandy contains the pure alcohol and other products which were the cause of its recommendation by an older generation of medical men. The reason is curious. Since the appearance of phylloxera in France the production of wine has fallen from about twelve to one million hectolitres. Yet the same amount of cognac is placed upon the market. In Spain alone, where the old-fashioned methods prevail, is the quality of the brandy maintained. It will be interesting to observe if the publication of Sir Charles Cameron's researches has any appreciable effect on the Spanish wine trade.—*London Globe*.

IMPOTENCE.

By T. B. BUSDRAGHI, M. D., of Madrid, Spain,

Of the Universities of Turin and Madrid; Late Assistant of Prof. C. Lombroso, Etc.

OUR retarded knowledge upon the subject of disease of the sexual organs is due to two causes: first is that the same vulgar superstition upon this subject has reigned so long in the popular mind that it has influenced even the better judgment of the profession; the other cause is that the majority of these patients are timid and ashamed of their diseases, and but seldom come under the observation of physicians.

Our studies along this line have been so neglected that we know mainly of but one disease—impotence. I do not mean by that term genital debility, which is only a stage of that disease. It has been a subject which has been slighted, and it has been diagnosticated in many instances without a search for the underlying cause, if any. The best works upon special pathology, the year-books of medicine and surgery, and all the more important encyclopædias, preserve an unusual silence upon this affection. Even in therapeutic works we find it receiving but bare mention, and hardly a remedy is recommended for its alleviation or cure. Contrasted with this slighting treatment of such a subject, we find that in the case of such a small organ as the eye hundreds of volumes have been written and its pathology and therapeutics have been exhaustively gone into; for instance, we enumerate more than twenty kinds of retinitis—Brightic, diabetic, syphilitic, hemorrhagic, etc.

Because of the slighting treatment which this subject has received at the hands of the profession we have no idea of the frequency of occurrence, and great difficulty is encountered in collecting data. The subject received a new impetus with the advent of the Brown-Sequard treatment by means of organic juices. We have no idea how frequent it is. We see fathers of families, young men apparently strong and healthy, men in the prime of life, who have this disease. We admit that this condition is not always due to excesses, dissipation, etc., but we recognize it as part of the disease neurasthenia, or as the consequence of a general disease, such as anæmia, syphilis, diabetes, and a series of nervous maladies of a variegated and severe type.

This condition is due not only to the above causes, but it is always a consequence of the carrying out of the act of coition without a proper regard for cleanliness and hygiene. It is lamentable that men are not given proper instructions as to the manner of cohabitation; if such were given, we would not see the act performed in as brutal a manner as it often is.

The condition of these patients is a pitiable one; these people are apathetic, with no ambition and without happiness. Their only recourse is suicide.

I do not think it necessary for me to go into the anatomy and pathology of the genital organs; that is sufficiently well known. What particularly concerns me is the physiology of these organs. But few considerations would suffice to convince one of their delicate and exquisite functions. We know that, physiologically, erection is brought about by an

increase in the arterial blood supply to the penis, whereby its volume is increased. This phenomenon is due to some peripheral stimulation, which in turn is transmitted to the spinal cord, the brain, or the medulla. Masturbation, where erection is brought about by rubbing the penis, is an example of the first class. As an example of the second class we may take falls, gunshot wounds, etc., bringing about a lesion of the spinal cord; as a consequence of such accidents we see erection of the penis, or a "priapism." The same effects are brought about by the association of images in the mind. If the eye gazes at an obscene picture; if certain odors are wafted to the nose; if we listen to certain harmonies; if certain tastes strike our tongue; if our hands or our body come in contact with determinate parts, the sexual appetite can be awakened and erection follows. In a word, the blind, the deaf, the idiotic, or any individual destitute of any or all of such faculties, can have erections through the above agencies.

There are other conditions which produce erection of the penis: Irritation of the erigerent nerves which have their origin from the second and occasionally from the third pairs of sacral nerves. Application of oxygenated blood, muscarine, electricity, etc., to the medulla oblongata is followed by an erection. The ejaculation of seminal fluid which follows hanging, and which is found almost invariably in medico-legal examinations after execution by hanging, is brought about by the influence exerted by the oxygenated blood upon the medulla oblongata in the "breaking of the neck" of the condemned. Peripheric stimulations, such as filling of the bladder, operations upon the penis, inflammatory troubles of the urethra, irritation of the rectal mucous membrane; etc., determine an erection of the penis. Moreover, it is now conceded that the deep urethra, or the prostatic portion of the urethra, is the seat of the voluptuous sensations which accompany sexual excitement and erection of the penis. Therefore, it is not difficult to understand how protracted inflammation of the deep urethra, as in a general disease or in a local infection, can so destroy the filamentous endings of the terminal nerves by depriving them of their sensitiveness as to produce the pathological state known as impotence. In these cases the introduction of the endoscopic tube into the deep urethra will disclose a congestive state, minute hemorrhagic spots, exquisitely sensitive to touch, purulent secretion, excoriations, and many other alterations of the normal state.

It is only by a vast and extended series of investigations along these lines, with a thorough knowledge of the physiology of these parts, that we can hope to arrive at an exact understanding of this condition. A diagnosis can be made only under such conditions, and upon the diagnostication of such a state can rest only an institution of rational treatment.

THERAPEUSIS.—We must acknowledge that the previous statement as to the paucity of drugs for the treatment of this condition is only too true; what little knowledge we possess in this regard is in a state of confusion, clearly showing that we are groping in the dark in the treatment of this condition. Most of the medicaments advised are directed to the improvement of the general condition of the patient—*i. e.*, free air, methodic and systematic exercise, attention to general hygiene of the body, and efforts to buoy up the drooping spirits of the patient. Among such recommendations we find the cold bath to the spinal column, electricity, espe-

cially in the form of faradization, quinine, iron, arsenic, strychnine, phosphorus in its different forms and combinations, and measures to resuscitate the depraved gastric and intestinal functions. Some authors have succeeded in obtaining good results by the rational use of the metallic sound or by dilatation of the urinary meatus, or by the performance of circumcision. A procedure which deserves trial is the hypnotization of the patient, with the object in view of convincing him that his impotence is not complete, but only a part of a genital debility. We pass over the so-called Brown-Sequard method of treatment by means of organic juices, without comment, save to remark that no sane medical man will think of it as a therapeutic measure. According to the studies of Retsurgeon (*Sem. Med.*, 1893) and Goll ("These Inaugural-Erlangen"), *Muiria Puama* is found to possess an excitant effect upon the genital organs. This plant is indigenous to Brazil, and from it we make a fluid and an alcoholic extract. In Kamerun the natives employ a plant for impotence called *Fohimbeke*. An illustration of this plant can be found in the *Chem. Zeitung*, page 970, by L. Spigel.

It is needless for me to say that cantharides is a dangerous and harmful medicine for use in this affection, and it should never be used for this purpose. It is a deplorable fact that cantharides is the drug which forms the basis of the many preparations offered to the public by quacks, and from the use of these preparations only loss of both money and health is the sole result of their employment.

Typhoid Fever and the Widal Reaction.—Dr. Naegeli, assistant physician at Professor Sahli's clinique at Bern, has published an interesting account of a typhoid fever epidemic which broke out in a pauper asylum of the canton of Bern. Of the forty-five inmates thirty received hospital treatment. The Widal reaction and the microscopic and numerical examination of the different blood-cells proved that twelve other inmates who had suffered only from slight symptoms, such as headache, slight fever, and diarrhœa, and were confined to bed either not at all or only for a few days, must have had genuine typhoid fever in an abortive form. The infection could be traced to the man who milked the cows of the establishment, who, as it was afterwards ascertained, suffered from night-sweats, bad dreams, and continuous diarrhœa for several weeks and completely lost his appetite, but who never discontinued his occupation for a single day. A milk infection explains the sudden onset of the epidemic, there being only one other case in the adjoining villages, one of which had the same water-supply. Altogether, typhoid fever could be diagnosed in forty-two out of forty-five inmates—a quite unusually high percentage pointing to the frequent occurrence of abortive forms of this fever. The Widal reaction secures the diagnosis of typhoid fever even months after the patient has quite recovered from his slight symptoms.

THE PRACTICE OF MEDICINE IN PORTO RICO.

BY JOHN S. BROWNE, M. D., of San Juan, Porto Rico.

THE beautiful island of Porto Rico is one of the greater Antilles situated between latitude $17^{\circ} 54'$ and $18^{\circ} 31'$ north, and between longitude $9^{\circ} 44'$ and $11^{\circ} 25'$ east of Washington. Length, 95 miles; width, 35 miles; area, 3668 square miles; population in 1887 about 800,000; now estimated at 1,000,000.

San Juan, the chief city, is said to contain 30,000 souls with an ample supply of medical practitioners, the number being estimated at from thirty to thirty-five, or a doctor to every one thousand persons. The bulk of practitioners are graduates of European colleges, a small amount from the University of Havana, and the remainder from reputable colleges in the United States. The principal diseases which come under observation are tuberculosis, the various forms of malarial fevers, syphilis, and the eruptive fevers of childhood. The first-named disease exists to an almost alarming extent, due in great part to the unsanitary conditions which prevail, especially among the masses, and which, although they have been vigorously dealt with since American occupation, still claim attention on the part of the government for continued activity.

In contributing this small article I shall confine my remarks to the city of San Juan, as I am not in a position to furnish the readers of your beautiful journal with conditions as they exist in other parts of the island. The practice of medicine in San Juan, as in a great many parts of the West Indies when compared with cities of the North, is much more favorable; especially is it so in the case of the young practitioner fresh from college who is always trying to get every dollar in sight in order to recuperate from the heavy drain made on his purse during college days. All of us are aware of the struggles with which in a great many instances the young graduate has to contend in Northern cities, involving years of energetic action and some capital, due in a large measure to keenness of competition. It may be worth stating that such a condition is absent here. In the case of the long-standing practitioner in the North, when compared with the man of the same standing here, the Northern man will, in my opinion, be at the receipt of a much larger income and, on the whole, will be placed in a much better position to become known to the world should he be disposed to devote a part of his time to scientific researches, there being greater facilities at his disposal in the North.

There is, however, I think, quite a scope for scientific work here; and it may be stated that Major Ross, who so recently succeeded in demonstrating to the leading scientists of Europe that the mosquito is the cause of malaria, would find ample scope for further investigations here in the gathering of final evidence to support his claim. Again, in the case of the young practitioner here, if he be not strong-willed, will soon find himself drifting behind the times in the progress of modern medicine. This is, perhaps, due to a lack of energy in a measure dependent on climatic conditions, but may be more satisfactorily accounted for in a lack of co-operation on the part of the profession in its failure to establish something in the shape of

a medical society, where current medical literature may be discussed and the well-known benefits derived from the interchange of ideas.

Speaking of the people of San Juan, the great bulk have been somewhat straitened financially for some little time, but especially so since the great devastation and waste brought by the recent hurricane, so that at present the medical man, like other men in the various departments of life, finds that his earnings have been curtailed, and with no hope in the immediate future of a revival. In making this statement it must not be understood that the doctor is having less work than before. On the contrary, his work has been doubled, but to every ten native patients that go into his office, at the very least a half will be there for gratuitous aid.

In many instances it will be found that quite a few of these persons are able to pay for consultation, but are inclined to take advantage of circumstances, which is rather an unsatisfactory state of affairs for the physicians. There is another condition in existence here which should be condemned as being a menace to the profession. It is the founding of so-called societies by a clique of doctors for monopoly. At these institutions the names of as many persons as may be obtained are enrolled. They are then made to pay each the sum of—sixty cents American currency—a Porto Rican dollar, or a peso, as it is called by the natives, per month, for which amount they receive in return the services of the doctor or doctors in time of sickness, with maintenance; and in case of death, funeral expenses. These institutions are similar in their operations, medically, to secret societies in the North, of which many words of condemnation have been spoken by a large body of medical men, both in Canada and the United States. It is also worthy of mention that there are no civic hospitals in this city, so that, as I have already stated, the deserving poor are thrown on the hands of the private practitioner. I am, however, glad to say that the United States government has sought to meet the condition by having set aside a ward in the military hospital for emergency cases. It, however, has been demonstrated that this is inadequate to the needs of the city; there is, therefore, hope that the situation will be fully met by the authorities at an early date.

In conclusion, I may take the opportunity to state that Porto Rico boasts of several mineral springs, the best known being the one at Coamo, at which diseases, such as chronic joint affections, are successfully treated. Exceptional advantages may also be obtained by consumptives in certain parts of the country. Porto Rico in the near future will, undoubtedly, become a great point of attraction for tourists who wish to seek shelter from the rigors of the Northern climes, and when the conditions are improved, industrially and otherwise, will be a very desirable country for permanent residence.

We note in the daily press that the English troops about to embark for the South African campaign are being subjected to an optional protective inoculation with the enteric serum which proved so successful an immunizing agent among the Imperial troops in India. This experiment is highly interesting and its outcome will be eagerly watched. The previous attempts at preventive inoculation with this anti-typhoid serum have been so successful that we are sanguine of future results equal to those in the past.

LITHIASIS.¹

BY R. ALEXANDER BATE, M. D., of Louisville, Kentucky.

LITHIASIS is a condition of malassimilation. It embraces those disorders of arthritism which are characterized by the formation of calculi. The formation of calculi may take place in any receptacle which contains a more or less concentrated fluid secretion. Calculi have been found in the liver, in the gall-bladder, and in the hepatic ducts; in the kidneys and in their appendages, the ureters, the urinary bladder, and the urethra; in the pancreas and its ducts; in the salivary glands, in the prostate, in the tonsils, in the vermiform appendix, in the stomach, in the intestines, in the tissues of the body, in the blood vessels, in the nose, in the lachrymal ducts, in the skin; and in the lungs.

Lithiasis is chiefly a disorder of adult life, but it may occur at any age. Heredity plays an important part. Excessive eating and drinking, with insufficient exercise, disorders of the nervous system, and all else that retards the process of oxidation, favor lithiasis.

In the inherited lithiasis, where the cells are incapable of completing oxidation, and in the acquired type, where an insufficient amount of oxygen is obtained, arrested retrograde metamorphosis permits the accumulation in the system of organic acids and other products of malassimilation. The products of malassimilation, chemical changes in the fluid secretions, the presence of colloid and other foreign material, are the exciting causes of lithiasis.

In cholelithiasis the calculi are chiefly composed of cholesterine, a product of retrograde metamorphosis, which is held in solution in the tissues by lecithin, and in the circulating fluids of the body by the alkaline salts and the compounds of potassium and sodium with fatty acids. (Lyman.)

An excess of organic acids in the system (the acid dyscrasia of Lyman) liberates basic calcium in the system. The basic calcium unites with the fatty and biliary acid to form insoluble salts, thus lessening the alkalinity of the bile and precipitating the cholesterine.

Biliary calculi occur more frequently after the age of thirty-five. Females are affected three times as often as males. He suggested that pregnancy and menstruation favor the increase of organic acid in the system; that tight lacing caused stagnation of the bile; that their sedentary habits lessen oxidation, and that osteomalacia, a disease more frequent among females, is attended by the liberation of calcium salts into the circulation. (Naunyn, Loomis, and Haig.)

The frequency of gall-stones with cancer of the gall-bladder is probably due to the stagnation of the bile, and with addition of colloid and other foreign material.

The association of biliary lithiasis with other disorders of arthritism has been generally observed.

Renal calculi develop most often in adult life, but are found in the kidneys of both the foetus and the very aged. Males are affected more frequently than females, the proportion in adults being five to one. The

¹ Author's abstract of paper read before the Mississippi Valley Medical Association, October 5, 1899.

varieties of renal calculi are the uric acid form, the urate of sodium and ammonia, the lime deposits, the phosphate varieties, and, finally, several kinds of calculi are made up of cystine, xanthin, indigo, and urostealith. Uric acid "gravel" is the most frequent form of nephrolithiasis. If the urine becomes too acid, the tribasic phosphates, which hold uric acid in solution, are converted into acid phosphates, and the uric acid is thus precipitated. The products of arrested metamorphosis are again at fault, and everything retarding the nutritive processes tends to facilitate the deposit of uric acid within the urinary passages. Pancreatic, salivary, tonsillar and prostatic calculi are chiefly composed of lime salts, either the carbonate or the phosphate. These lime salts are put into circulation by an excess of organic acids in the system, and are precipitated from an acid medium into the various alkaline fluids of the body.

The vermiform appendix secretes a lithiasic alkaline fluid similar to that of the pancreas; therefore it is probable that calculi found in the appendix are of identical composition and similar formation to those of the pancreas. The deposit of calculi in the form of the urate of sodium and the urate of lime in the various tissues of the gouty individual, is directly due to arrested retrograde metamorphosis.

The rarer calculi usually have a nucleus of some foreign material, but Ord and Carter have shown that the presence of a foreign substance has little to do with the real pathology of lithiasis.

I believe lithiasis is dependent upon the systemic condition, and prophylactic treatment offers hope. Prophylaxis consists of a limitation in diet to that laid down for the arthritic generally, viz., a diet unattended by an accumulation of organic acids in the system. Also, such hygienic means as oxidation, the use of flannels to prevent sudden chilling, and the selection of a dry climate of even temperature.

The medical treatment is the same as the treatment of arthritism generally. The alkalies are useful to maintain the normal reaction of the secretions, and the salicylates to promote their fluidity, both assisting in the elimination of the products of retrograde metamorphosis.

Picea, hydrangea, dioscorea, chionanthus, Java tea, piperazin, polygonum, uva ursi, and olive oil are classed as antilithics. Olive oil and dioscorea have been of most service in my hands in the treatment of biliary lithiasis. Piperazin, urotropin, and the salicylates have acted best in nephrolithiasis. The use of the salicylates and the alkalies embraces the rational treatment of lithiasis.

Western Surgical and Gynecological Association.—The ninth annual meeting of the Western Surgical and Gynecological Association will be held at Des Moines, Iowa, December 27 and 28, 1899. Surgeons and gynecologists of the West are invited to affiliate themselves with this association. The secretary, George H. Simmons, 61 Market street, Chicago, will be glad to send application blanks on request. Titles of papers should be sent to the secretary as soon as convenient, but not later than November 20th, to insure a place on the program.

LONDON CORRESPONDENCE.

The Plague.—A renewed interest in the plague has been awakened by its arrival on the shores of the British Isles. It was brought to Plymouth by the P. & O. Company's steamship "Peninsular" on Saturday, October 14th. A coal trimmer—a Sidi boy—took ill the day after the ship left Marseilles, gradually became worse, and on his arrival at Plymouth was removed to the hospital ship "Pique" in Plymouth Sound. The crew were mustered and examined, and the names and addresses of passengers were taken down before they were allowed to proceed to their destinations. This line of action is in striking contrast to what occurred in Oporto, where it was attempted to prevent the spread of the plague by establishing sanitary cordons by drawing a zone as it were round the town of Oporto some four or five miles from the center, and the whole line, about thirty miles, kept by the troops. In that town no trains are allowed to travel outwards; wooden barriers have been erected on the roads, sometimes in the middle of a small village; rough fences have been built to prevent horses or vehicles leaving, behind which lounge armed soldiers with instructions to fire if either passengers or goods attempt to force the passage, the only exception being the postman. The soldiers had sixty rounds of ammunition, and in the night called out three times if they saw anything moving and then fired.

The cordon is constantly evaded, as, indeed, has been the case with every attempt to establish such sanitary measures. Thirty thousand people are thrown out of work and reduced to the miserable and pitiable state of weakness and ill health so favorable for the propagation of this dread disorder.

What is the recent view regarding the communicability of plague? It cannot be said to be a highly infectious disease; spreads much less rapidly than scarlet fever, small-pox or famine fever, cases in which the attendants are very liable to be attacked with the disease. In plague cases it seldom happens that attendants engaged in plague duty become victims to the trouble, provided they exercise a reasonable, and by no means irksome, care. From this it has been thought that other factors than merely personal contact between man and man must be concerned in the spread of the disease, otherwise, considering the careful isolation and sanitary measures that have been adopted against it in eastern lands—China, India, Hong Kong, etc.—the disease would long ago have been stamped out. The view at the present moment which carries most professional weight regarding the propagation of plague infection in an epidemic form is that it is conveyed by rats, and that if rats were exterminated in any place, plague could never become established in that place. Here again it comes to pass that the lower animals are credited with powers of conveying disease. The effect of rats in propagating disease are alluded to in Saxon medicine, when witchcraft was considered by the Saxons, as well as the more ancient Celts, as potent for causing certain disfigurements of the body such as those mentioned in "King

Lear" (act iii., scene iv.): "He gives the web and the pin, squints the eye, and makes the hare lip," and they employed for the cure of these, animal-begotton remedies. It will be remembered how poor Tom, "in the fury of his heart, when the foul fiend rages, swallows *the old rat*, and the ditch-dog,

"But mice, and rats, and such small deer,
Have been Tom's food for seven long year."

On this point I will quote a passage written by Dr. Manson, the Lecturer on Tropical Diseases at St. George's Hospital and Charing Cross Hospital Medical Schools: "Were I asked how I would protect a State from plague, I would certainly answer, exterminate the rats as a first and most important measure; but, in making this recommendation, I would stipulate that the measure be taken in anticipation of the advent of the disease, not when the disease had already shown its presence and the rats are dying by thousands. It is too late then; the mischief has been done. An epidemic in full swing is hard to stop. I do not know that London may not be again smitten with the plague. Some, relying on the proved efficiency of our measures for the prevention of cholera and on our elaborate sanitation, believe that there is no danger. But I would point out that cholera is not on all-fours with plague, and that what applies to the former does not necessarily apply to the latter. There is this important difference between the two, especially important from a sanitary point of view: cholera is a water-borne disease, plague is a rat-borne disease. We have taken precautions that our water supply may not be infected with the cholera vibrio; have we taken similar precautions that our rat supply does not become infected with bacillus pestis? Suppose that a single rat infected with plague should escape into the sewers of London from one of the many ships constantly arriving from plague ports. What would be the consequence? The rat would die. Ten chances to one its body, teeming with plague bacilli, would be quickly eaten, as is the habit of rats, by other rats, or the fleas infecting it would transfer themselves to those other rats and with them plague bacilli. These in turn would become infected with plague. The fat would then be in the fire, and we would have, before very long, an underground epidemic of plague in London. Who can say that the disease would remain underground? At the present juncture, were I the responsible sanitary head of any town in Europe, in anticipation of a possibility, compared to which in horror and in destructiveness a general European war would be a trifle, I would do my utmost to have every rat and, if possible, every mouse in my district promptly exterminated. This done, I would contemplate the approach of plague with equanimity."

Mosquitoes and Malaria.—The research in this direction is still being vigorously prosecuted by many workers in England, including Mr. Shattock, Pathologist to the Royal College of Surgeons, England, and many others. It is curious to note this research as an example of the interdependence of medicine upon general science, and as demonstrating in its single self the aphorism expressed by the late Sir Andrew Clark, that "Medicine is the center of the Kingdom of Knowledge." The discovery of the blood corpuscles is of ancient date, the discovery of their structure is more recent. At length it was announced by Laveran that he had seen

some unusual bodies in the blood corpuscles of malarious patients; this was a small amœboid body, living and moving entirely within the corpuscles, ultimately destroying the cell and bursting with its own contents, liberates the parasites into the blood, which in turn enter into other corpuscles and renew the life-history of their progenitors. These stages correspond with the symptoms of ague, the shivering, the heating, the sweating, in their mathematical order. Quinine has been shown to have a powerful effect on the life of these amœboid structures. The next point in this research was to discover how the amœboid body came to be in the corpuscle. Long ago, Dr. Manson had suggested that it was introduced there from the mosquito, and after many trials and mosquito dissections this amœboid body was actually discovered in the beast. This species was called "Anopheles." Perhaps the best description of this animal and of the whole life-history of mosquitoes in general, is that published in Bulletin No. 4, New Series, United States Department of Agriculture, Washington, 1896 (pp. 9-24), by Dr. L. O. Howard, Entomologist of the Department of Agriculture of the United States: "The Anopheles (of which the name is frequently referred to) is a genius of the great division of culicidæ, popularly known as mosquitoes or gnats, of which Anopheles seven species have been recorded as present in North America, two of which are more especially European. The Anopheles quadrimaculatus (of Say) is noticed as a "large and very ferocious" species. The typical life-history, as in the case of the Culex pipiens, is that the eggs are laid in masses in water, in (or presently on) which the young mosquito or gnat passes its first stages, the perfect insect presently emerging to continue its life in winged state." The Anopheles in question is a large one with four spots on its wings, but it is highly probable that all blood-sucking gnats in malarious districts are capable of conveying the amœboid bodies. Dr. Ross has expressed his belief that by destroying the breeding-places of these pestiferous animals the general problem will be completely solved.

The same treatment by kerosene will probably render the destructive effects of the tsetse fly on horses less terrible. Should this turn out to be the case, immense regions of Africa and other European countries will be opened up to agriculture and colonization, and another disease less among the plagues of humanity.

Jenner Institute of Preventive Medicine.—On the opening of the winter session, Dr. Macfadyen delivered an address upon the Jenner Institute and its work. He said it was only of late years that bacteriological inquiry had received any encouragement or support in this country, while the work initiated by Pasteur and Koch had found immediate recognition on the continent. In Germany the Hygienic Institute was an essential feature of every university town, and a center of active research in bacteriology and preventive medicine. In France bacteriological inquiry had always received encouragement. The Pasteur Institute recently opened at Lille was supported by the government, the municipality, and the manufacturers of the district. In this institute, as in Paris, besides the study of the origin and prevention of infectious diseases, consideration was given to the industrial processes in which organisms played a vital part. It was only an infinitesimally small number of these ubiquitous

forms of life that were capable of invading the human body. The vast majority were engaged in carrying out beneficial processes in the economy of nature. The results of bacteriological inquiry were not only of importance to medical men: they had a direct practical bearing on the work of the brewer, chemist, and agriculturist, and the commercial interest of a country. Ten years ago it was necessary to go abroad for the purpose of following such studies, and every one who had done so would acknowledge the stimulus received, and the permanent value of the instruction that was so willingly imparted. London, the richest city in the world, lacked the facilities afforded by Paris, Berlin, St. Petersburg, or a small German university town. As the result of a meeting at the Mansion-house in 1889, the Lord Mayor transmitted to M. Pasteur the sum of 40,000*fr.* "in grateful recognition of the services rendered by him in the successful treatment of more than two hundred British subjects bitten by rabid animals." The responsible committee resolved that it was desirable to establish an institute similar in character and purpose to the Pasteur Institute in Paris and the Hygienic Institute in Berlin. This was the genesis of the British Institute of Preventive Medicine, founded in 1891 in order to study the means of preventing and curing infective diseases; to prepare any protective or curative materials found to be of value; to provide instruction in preventive medicine; and to carry out investigations in all branches of bacteriology. No provision existed in this country for the promotion of these objects on a scale at all commensurate with their importance. A public appeal for funds and the response made showed that the idea of a national institution for the study of bacteriology met with wide approval. Work was begun in temporary premises, and ultimately transferred to the present and permanent home of the institute at Chelsea. An event of far-reaching importance was the public announcement of Lord Iveagh's intention to devote the sum of £250,000 to the promotion of the objects for which the institute was founded. The new articles of association, a condition of the gift, had just been confirmed by the court. The Jenner Memorial Committee having decided to transfer the funds in its possession to the institute, steps were taken to perpetuate the memory of Jenner and his work. This was ensured through the change effected in the title of the institute to the Jenner Institute of Preventive Medicine. The institute had already published two volumes of transactions embodying work carried out in its laboratories. The Antitoxin Department was engaged in preparing various therapeutic serums, notably the anti-diphtheritic serum, as well as in research in this important field of work. The primary object of the institute was research, but facilities were afforded for post-graduate instruction in preventive medicine and bacteriology. The students had come from all parts of the world, and a considerable amount of original work had been done by those trained in the laboratories. Investigations are at present being made at the institute with reference to the possible cure or prevention of typhoid fever, tuberculosis, and other diseases. The diagnosis of infectious diseases was constantly being carried out for the main parishes of London, as well as the investigation of questions affecting the public health on behalf of sanitary authorities. The chemical and State medicine laboratories would find much to do in connection with water, sewage, food,

poisons, etc. A notable addition had been made to the resources of the institute in the Hansen Laboratory for the study of the practical application of bacteriology to industrial and technical processes, and the most important results might be anticipated in the future from this branch of investigation. The institute had reached its present position without any official support, and its secure future was due to Lord Iveagh's enlightened action. The best endeavors of the management were being devoted to the attempt to find further means of ameliorating disease and suffering. At the same time, they must never allow the community to forget that the preordained conditions of health were light, air, and cleanliness. Unfortunately the overcrowding in the poorer quarters of our large cities was reproducing medieval and oriental conditions of life. Medical research was looked upon with suspicion by many people in this country, and they were aware of the opposition that had been raised to the experimental methods that were a necessity in their work. The calls that were made on them for help against the silent ravages of disease were, however, a constant appeal to continue their endeavors in the hope that they might be of service "*pour la science, pour la patrie, et pour l'humanité.*"

Port Sanitary Work.—Dr. Collingridge, the medical officer of health for the port of London, has just issued to the corporation his half-yearly report upon the sanitary work carried out in the port of London. During the period under review the total number of inspections of vessels of all classes was 17,232. Of these 9,325 were lying in the river and 7,907 in the various docks at the time of inspection. Of the total number 14,654 (equal to 85.03 per cent.) carried the British flag, the Scandinavian coming next in order of frequency with a total of 1,061, or 6.15 per cent. In 1,431 cases, or 8.3 per cent., it was found necessary to order cleansing to be carried out. Fifteen sick seamen were conveyed to the hospital over and above the number of cases of infectious disease dealt with by the officers. Three hundred and forty structural alterations, affecting three hundred and fifteen vessels, were carried out by the port sanitary authority, and fifty-one such alterations, affecting forty-five vessels, are still in hand. In fifty-one cases the alterations were ordered for the improvement of ventilation, in twenty-two for the improved storage of drinking water, and in two hundred and seventy-two for more efficient methods of lighting and heating.

The Training of Naval Medical Officers.—Following up the recent utterance at Portsmouth on this subject by Professor Ogston, a parliamentary paper has been issued containing the report of the committee which had been appointed to inquire into the training of the medical officers of the navy. The committee took steps to obtain the opinions of the naval medical officers who were unanimous in condemning the inadequacy of the present instruction at Haslar, inasmuch as it did not include instruction in those diseases occurring on foreign stations. The committee concluded that the School of Tropical Medicine could not be used as a school of instruction for naval medical officers. The committee could not advise the complete abolition of any of the subjects now taught at Haslar, but are of opinion that the instruction given in meteorology should be much reduced and that instruction in food analysis should be strictly confined to the re-

quirements of the service afloat. The committee state that in connection with the entry of naval medical officers their attention has been drawn to the great disadvantage under which those officers labor as compared with army medical officers in regard to the provision of surgical instruments at their own cost. In the case of naval medical officers these instruments involve an expenditure of something like £50 or £60, and the committee do not think that such a tax ought to be imposed upon them.

As to the question of what facilities at present exist for naval medical officers to renew or increase their knowledge from time to time, the committee regret to find that the facilities at present afforded are wholly inadequate. The nature of the service renders it doubly necessary that naval medical officers should be encouraged to keep abreast of modern knowledge and scientific progress, and the committee state that undoubtedly the best way to secure this end is to make increased provision for officers to attend a post-graduate course at a London or other improved hospital. At the present time seven surgeons a year were allowed full-pay leave of three months for this purpose. This number the committee consider far too limited. They can see no reason for thus confining the privilege to officers of the rank of surgeon only, and they recommend its extension to all ranks below that of deputy inspector-general. The committee further consider that much might be omitted without loss from the annual report on the health of the navy, and that a supplementary volume should be issued of notes and papers on subjects of special interest to naval medical officers.

W. L. BROWN.

Fœtal Anomalies.—It seems strange that text-books on midwifery devote so little attention to the subject of fœtal monstrosities and their frequency of occurrence. We know that such things occur very frequently—in fact, much more frequently than we imagine from reading the meager accounts of them in obstetrical literature. G. Stewart Abram reports several very interesting cases of this kind in *The Lancet* for September 23, 1899. The first case mentioned by him was the delivery of an anencephalic monster from a primipara aged twenty-four years. One year later the same thing recurred—*i. e.*, the birth of another anencephalic monster, together with a placenta previa. The second case mentioned is an account of the birth of a living child who had an entire absence of the external abdominal walls over an area extending from the umbilicus to the left of the middle line. The abdominal contents were covered with a thickened membrane which bulged to the size of the fist, and the umbilical cord at its insertion was spread over a portion of the swelling. At first the sex was doubtful, but post-mortem it was found that the apparently imperfectly developed genitals were really parts of a female child's pudendum much stretched and distended by a separation of the symphysis pubis. The child lived four days. Case three was another anencephalic child delivered by Abram of a multiparous mother. Cases four and five are similar to the first two. The writer attended, in the period referred to in his article, 223 labor cases, giving a percentage of nearly 2.5 of anomalous developments of the fœtus.

NEW YORK LETTER.

New York Obstetrical Society.—At the annual meeting of the New York Obstetrical Society, held October 10th, the following officers were elected for the ensuing year: Dr. Clement Cleveland, President; Dr. H. J. Boldt, First Vice-President; Dr. R. Waldo, Second Vice-President; Dr. R. L. Dickinson, Recording Secretary; Dr. E. E. Tull, Corresponding Secretary; Dr. J. Lee Morrill, Treasurer.

The Death of Mr. William H. Appleton, senior member of the firm of D. Appleton & Company, occurred in New York, October 19th. He was in the eighty-sixth year of his age. Although Mr. Appleton had not been active for some years past he was for many years one of the prominent factors in bringing American book publishing to its present high level. In the medical world his firm is known more especially as the publishers of the *Popular Science Monthly*, *The American Gynecological and Obstetrical Journal*, and *The New York Medical Journal*.

The Bellevue Hospital Ambulance, while hastening to an emergency call, was badly wrecked by being caught between the track of a trolley car. The ambulance surgeon was violently knocked about in the ambulance, being cut and and bruised by flying glass. He at once telephoned to the hospital for another ambulance and went to the call. Upon arriving at the hospital it was found that the surgeon was badly injured, but the patient was all right. One cannot help but contrast the actions of this brave surgeon with the actions of many in the past who have stood by the side of a dying patient, wrangling with rival ambulance surgeons as to whom the case belonged.

Suit Against the Cornell Medical School.—So much has been written about this controversy between the two prominent medical schools of this city that your correspondent feels that a full statement of the case might prove of interest to your readers, especially as it concerns two of America's greatest medical teaching institutions. The suit has been brought by the New York University Medical School against the Cornell Medical School to compel the later to accord to the students of the former school the privilege of the Loomis Laboratory. This suit was brought before Justice Truax of the supreme court on October 20th. George A. Strong, counsel for the New York University School, based the rights of his clients in great degree upon the following statement of Dr. Alfred L. Loomis, recorded in the minutes of a meeting in the spring of 1897:

"About one week ago a gentleman gave me the power of attorney to spend \$100,000.00 for him in the erection and equipment of a laboratory building for the exclusive use of the faculty and students of the medical department of the New York University. He designated that it should be known as the Loomis Laboratory of the Medical Department of the New York University; that, when completed, it should be handed over to a board of trustees, which should hold it for the use of the faculty and the

students, as already indicated; that in every way, as might from time to time be indicated by the faculty, it should be used to increase the teaching facilities of the medical department of the university; that if at any time the council of the university shall assume pecuniary obligation of the faculty and take the college building, the trustees of the laboratory may transfer property to the council. In accordance with the wish of the donor I have had a bill introduced in legislature, incorporating the laboratory, with the following board of trustees, viz.: D. Willis James, L. F. Stetson, C. E. Miller, A. L. Loomis, and H. P. Loomis. The last two names were insisted on by the donor.

"The donor will give the faculty any legal documents which they may wish, guaranteeing to them that the laboratory and its equipments shall always be for their use in laboratory teaching. It is understood that the trustees are to be simply the custodians of the property and any endowment which the laboratory will receive."

Mr. William H. Paine was the donor referred to. Among other things the plaintiff cited that the laboratory buildings bear upon the front, carved in stone, in letters a foot long, the name of the university, placed there by Dr. Alfred L. Loomis, who gave the endowment to the laboratory amounting to \$25,000.00. George E. Miller, Esq., counsel for Cornell School, stated that the laboratory there never was such trust as the one alleged, and that the property was conveyed to the defendant for the promotion of surgical research in chemistry, biology and pathology, and for the elementary teaching in those branches under such regulations as the board of trustees should, from time to time, establish; that it has always been so used, according to chapter 329, the laws of 1887, under which it was incorporated.

In 1897 there came a split in the medical faculty of the New York University, many of its members going to Cornell. New York University has tried to obtain the use of the building, but could not do so; hence the suit.

Justice Truax was prepared to decide it at once, but at the request of the plaintiff's counsel he reserved decision for three weeks in order to give counsel time to prepare briefs.

A Memorial to Dr. O'Dwyer.—A committee recently met at the New York Academy of Medicine for the purpose of making arrangements for raising an endowment fund as a memorial to Dr. O'Dwyer. The fund is to be sufficiently large to yield an income of six hundred dollars *per annum*, which is to be awarded by competitive examination to some physician for the purpose of study abroad for a period of three years. All agree that such a memorial that will go on indefinitely helping to alleviate human suffering is a more fitting tribute to the memory of a man like Dr. O'Dwyer than a costly monument or a marble bust.

A Lamentable Mistake.—Last week Drs. Purdy and Maier were called to see a charity case; they saw the case but once, treated the woman for rheumatism, and recommended that the woman be taken to Bellevue Hospital, where she died a few days later. An autopsy was held about the results of which there was some justifiable difference of opinion. The cor-

oner, however, alleged that the death was due to criminal abortion, and forthwith the above mentioned physicians were arrested. After considerable undesirable newspaper notoriety and a morning spent in the coroner's court they were exonerated by the coroner and the jury.

No exoneration by a court can remove the stigma attaching to notoriety of this sort. It was certainly a most deplorable injustice to inflict on reputable physicians. While the ease with which actual criminals in this direction are permitted to slip through the clutches of the law is much to be deprecated, there should be some means of protecting reputable men from like insults.

A New Index Medicus.—*The Medical Review of Reviews*, of this city, which has been publishing a valuable index medicus of American periodicals, proposes, in its September number and the months following, to add thereto "all the leading journals of Europe, classifying the articles under the different heads, as has been successfully done by the *Index Medicus*, now unfortunately suspended, in such a way as to fill the position of that invaluable journal." We cannot doubt that the editor's appeal to his *confreres* for their aid in carrying out this praiseworthy enterprise will be promptly responded to, so as to insure for it the fullest measure of deserved success.

Clinical Lectures on Skin Diseases.—Dr. L. Duncan Bulkley will commence a second series of clinical lectures on "Diseases of the Skin" in the out-patients hall of the New York Skin and Cancer Hospital, commencing Wednesday afternoon, November 1st. The high standing of the doctor and the abundance of clinical material at his disposal will insure a course of lectures of great practical value. These lectures will prove of special interest not only to the student, but to the general practitioner.

E. FRANKLIN SMITH.

A Preliminary Note on the Use of Asparagus as a Diuretic.—(By H. A. Hare, in *The Therapeutic Gazette*, September 15, 1899.)—Hare has been using a fluid extract made from the root stalk of asparagus to increase diuresis. The first case upon which it was tried was one of cirrhotic liver with beginning ascites, where the quantity of urine passed in the twenty-four hours was low and where eliminative treatment was necessary. Under the use of this remedy, the quantity of urine was markedly increased and the ascitic condition speedily disappeared. In another case it was also used with beneficial effects, after other diuretics, such as digitalis and bitartrate of potassium and acetate of potassium had proved ineffectual. This was a case of disordered digestion and marked edema of the legs resulting from a double mitral lesion. In a case of advanced atheroma with aortitis and probably fatty heart, no marked effect was produced by the asparagus.

MEDICAL NOTES.

The Mosquito Which Causes Malaria.—The mosquito which carries the malaria plasmodium has been described recently, and no doubt it is of interest to our readers to know the following simple method of recognizing it. The accompanying illustrations are borrowed from the *British Medical Journal* for September 30, 1899. The easily recognizable trait of the genus *anopheles*, the only malaria bearer among the mosquitoes, is its attitude when resting on a wall. It differs in this markedly from the genus *culex*, which is the ordinary form of mosquito. The *British Medical Journal* says:

"In *anopheles* the axis of the body is almost vertical to the wall, while in *culex* it is parallel to the wall. The rough sketch above will suffice to show this. Hence, any one who looks at a mosquito when it is seated—the time when it is best seen, of course—can tell at a glance to which genus it belongs. Popularly described, the tail of *anopheles* is said to 'stick outwards,' while that of *culex* points downward, or even a little toward the wall. In short, the *anopheles* when seated looks somewhat like a thorn affixed on a surface by the point. In *anopheles* the proboscis is directed toward the surface on which the insect happens to be; in *culex* it is directed parallel to that surface.



"Another striking difference is that in *anopheles* the wings generally have several dark spots along the anterior edge (to use popular language), while in *culex* the wings are generally plain. Ross says that this difference holds in all the mosquitoes seen by him, so that these characteristics must be pretty general. But nevertheless there are some known species of *anopheles* without spotted wings, and some known species of *culex* with them. A third difference is that in *anopheles* the proboscis appears peculiarly thick and long, giving the insect a pelican-like appearance. This is due to the palpi being held close to the proboscis."

Wherever the genus *anopheles* occurs there is danger of malaria. Other mosquitoes do not convey malaria so far as is known at present. The prophylaxis of malaria consists in protecting people against the *anopheles*. They bite especially at night, passing the day in a dormant state in which they may easily be caught.

"Recent Advances in Physiology" was the theme selected by J. J. Charles, President of the Section of Anatomy and Physiology, British Medical Association, at the recent annual meeting held in Portsmouth, England. He pointed out all the most important discoveries, devices, and new methods of up-to-date physiology. Particular attention was given to the question of the minute structure of protoplasm. According to Charles, the most reasonable view as to the cause of blood coagulation is that there are three factors concerned, viz.: (1) fibrinogen, which is present in the plasma; (2) nucleo-proteid, derived in part from blood platelets, but chiefly from the disintegration of white blood corpuscles; and (3) lime salts in solution in the plasma. The nucleo-proteid, by the action of lime, is changed into fibrin ferment, and this ferment, reacting with fibrinogen, transfers its lime to the chief constituent fibrinogen (thrombosin), and this gives rise to fibrin. The address is an exhaustive review of up-to-date physiology, and embraces all theories that have been lately advanced on physiological questions, with a critical review of same in a scientific manner.

Note on the Blood in a Case of Beri-Beri.—Mott and Halliburton have been investigating the action of choline and neurine with special reference to the pathology of general paralysis of the insane during the past two years in the physiological laboratory of King's College, London. They arrived at the conclusion from this work that the cerebro-spinal fluid of these patients produces, when injected into the vascular system of animals (cats, dogs, rabbits), a considerable fall of blood pressure; and this is due to the presence of choline. This alkaloid originates from the lecithin of the disintegrating nervous tissues. The nearly related alkaloid neurine is not present; it is more toxic, and its most marked effect on the circulation is a preliminary fall of blood pressure (mainly cardiac in origin), followed by a great rise in pressure due to a constriction of the peripheral blood vessels. The fall of blood pressure produced by choline is partly of cardiac origin and is due partly to dilatation of the peripheral vessels, especially in the intestinal area. The blood of these patients, when removed by venesection during the epileptiform seizures, contains this alkaloid. It was found by these investigators that alcoholic extracts of normal blood, normal cerebro-spinal fluid and ordinary serous effusions contain no choline and produce no results on blood pressure.

The writers draw special attention to their work on a specimen of blood removed by venesection from a case of beri-beri by Dr. Patrick Manson; it was mixed with alcohol, filtered, the filtrate evaporated to dryness at 40° C., the residue dissolved in normal saline solution and injected into the external jugular vein of cats anæsthetized with alcohol and ether. The amount of material injected was 10 c. cm., which corresponded roughly to twice that quantity of the original blood. It was found that a fall of blood pressure was produced, with slowing of the heart, just as choline acted. Whether the substance in the specimen of blood was choline or not we are not in a position to say, for we did not have enough of the material to make a chemical test. Later on, when the patient died, it was found that there was an extensive fatty degeneration of the peripheral nerves and a fatty degeneration of the muscles, including the heart.

SURGICAL SUGGESTIONS.

Regeneration of Divided Nerves.—Horsley's latest work on this subject is of great importance to the surgical world, for he shows that regeneration of nerves takes place after the nerve is divided, crushed or bruised. It seems that the regeneration takes place from the proximal end of the divided nerve, and that it is simply an outgrowth of the axis-cylinder. The only thing that interferes with such a regeneration is the growth of scar tissue. This is a warning to surgeons who are dealing with divided nerves to thoroughly suture them in order that the regeneration can easily take place.

Contusive Pneumonia.—Aieroli (*GlvIncurabili*, An. 15, F. 15-16) discusses pneumonia as a result of contusions of the thorax and abdomen. That there really exists a causal relation between the two he thinks sufficiently established by the records of published cases. Nor does he think it necessary to invoke the agency of specific germs as efficient secondary causes; the injury is sufficient to cause pneumonia, and possibly acts by producing vaso-constrictor disturbances due to peripheral contusion acting reflexly on the lung.

Relative Frequency of Varicocele on the Right and Left Side.—Vedora (*Il Policlinico*, March 15, 1899) has carefully examined this question from the anatomical point of view, and finds that the left internal spermatic vein is congenitally devoid of valves that are functionally efficient, with a frequency twenty-six per cent. times greater than the right spermatic. When the left pampiniform plexus is affected with primary varicocele the corresponding spermatic vein is usually devoid of valves. The author, therefore, concludes that one of the predisposing factors in the development of varicocele consists in the absence of efficient valves in the lumen of the spermatic veins. The minor frequency of right varicocele is due to the almost constant presence of efficient valves at the point where the right spermatic vein debouches into the inferior cava.

On Streptothrix Infections.—Flügge's latest classification of the streptothrices is as follows: the achlorophyllous fungi are divided into (1) schizomycetes or bacteria; (2) streptothrices; (3) blastomycetes or yeast fungi; and (4) hypomycetes or mould fungi. It seems that the streptothrices belong to the last subdivision, according to Foulerton. Various streptothrices have been described as pathogenic for man. They are the "streptothrix actinomycotica" or ray fungus; the streptothrix *maduræ* of Vincent; the streptothrix *asteroides* of Eppinger, isolated from an abscess in the neck of a man who had died with a cerebrospinal meningitis of undetermined causation; streptothrix *Foesteri* of Cohn, from the concretions in the lachrymal canal in man; streptothrix *aurea* of Dubois Saint-Sevrin, described as the cause of conjunctivitis in man; streptothrix *odorifera* of Rullman, isolated from sputum; the streptothrix *pseudo-tuberculosis hominis* of Flexner, a fungus as to the

exact nature of which there is some doubt, as it was only observed in tissues, no cultures being made. In addition to these classified streptothrices, so-called "streptothrix" or "mycelial" forms have been described as occurring in cultures of the diphtheria and tubercle bacillus. This well-marked branching formation has been seen in cultures of the tubercle bacillus particularly, and Coppen Jones, Babes and others have suggested that what is known as the bacillus tuberculosis is not a true fission fungus, but belongs to the streptothrices. Foulerton, in this connection (*The Lancet*, September 16, 1899) narrates a case of axillary and supra-clavicular suppuration where a streptothrix was found which tallied in some respects with the streptothrix actinomycotica but differed in others, so that he called it the "pseudo-actinomycotic streptothrix." Hayo Bruns has also described a similar case where the same streptothrix was demonstrated. With Foulerton, he objects to the term "pseudo-actinomycosis," as he thinks that this streptothrix belongs to a new species.

Virility in Cryptorchides.—It seems to be a settled fact that a state of cryptorchidism does not necessarily imply a state of sterility. R. Milner Smyth (*The Lancet*, September 16, 1899) gives a history of a case of cryptorchidism in which the man who was the subject of this pathologic condition had always enjoyed full sexual vigor and had procreated five children after a married life of sixteen years. This observation is in accord with that of Taylor, who says that "it is satisfactorily established that cryptorchides are not necessarily sterile." This view is opposed to that of Curling who states that "a male with this defect on both sides, though often potent and efficient for sexual intercourse, is incapable of impregnating the female."

Treatment of Congenital Hip Displacement.—Lorenz (*Berl. klin. Woch.*, January 16, 1899) recommends the bloodless treatment of congenital displacement of the hip by a method analogous to the manipulative treatment of talipes. Previous to reduction the head of the femur is manipulated by downward displacement and abduction to 90°. It is then fixed in the abducted position. The abductor muscles, if offering resistance, are stretched till their fibers rupture. This is, in the author's opinion, preferable to tenotomy. Reduction is afterwards effected over the posterior margin of the acetabulum, which is the part of the socket best developed. The limb is then maintained in the straight position by means of a screw extension apparatus. The best age for operation is under seven years, but Lorenz has had good results at fourteen years. The older cases are liable to paralysis of the sciatic nerve and other accidents. In intractable cases he advises tenotomy of the hamstring tendons, and extension before effecting reduction.



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RAILWAY SURGERY.

Railway Accidents.—The return of railway accidents during the year in the United Kingdom to the Board of Trade shows that the number of passengers killed in train accidents was 25, which is an increase on the previous year, in which the number was 18. These deaths were caused by eight collisions and two derailments of passenger trains.

The total number of deaths and injuries to passengers from causes other than accidents to trains reported in 1898 were 128 killed and 1238 injured, as against 115 killed and 1315 injured in 1897.

When all classes of accident on railways are taken into account, however, only one passenger is killed in 6,947,131 passenger journeys, and only one in 568,402 is injured. Season ticket holders' journeys are not included in these figures, because their number cannot be estimated; 1,283,045 season tickets were issued in 1898.

In the course of twelve months 504 servants of the companies were killed and 4149 injured. These figures are irrespective of 38 killed and 8830 injured in accidents in which the movement of vehicles was not concerned. Reference is made to the heavy figures representing accidents in shunting operations, and the efforts of the department to deal with the matter legislatively by the introduction of the bill into Parliament to enforce safety appliances for coupling or uncoupling.

The latest returns (down to the end of 1895) give the length of double lines open for passenger traffic in the United Kingdom as 11,252 miles, and 8774 miles of single line.

Reduction of Fractures.—A simple method for the reduction of fractures of the lower end of the radius is used at the Pennsylvania Hospital and seems to fill a long-felt want. It is described by Dr. D. Richardson, as follows:

“The surgeon stands in front of the patient, interlaces his fingers beneath the supinated wrist and palm of the injured member, so that his two index fingers lie parallel crosswise beneath the lower end of the upper fragment of the radius. The palms of the surgeon's hands are then closed in upon the thenar and the hypothenar portions of the patient's hand respectively, while the surgeon's thumbs rest parallel lengthwise upon the upwardly displaced fragment of the radius. The parts are thus firmly grasped by the surgeon while the following movements are made: The patient's wrist is excessively extended by carrying his hand upward. When hyperextension has thus been secured the surgeon makes powerful traction upon the wrist in the line of hyperextension. While this traction is maintained the hand is suddenly carried into full flexion, and at the same time powerful downward pressure upon the upwardly displaced lower fragment of the radius is made by the surgeon's thumbs opposed by the interlaced index fingers beneath the lower end of the upper fragment.

“The excessive extension of the first portion of the movement has always loosened or disentangled the displaced lower fragment, while the sub-



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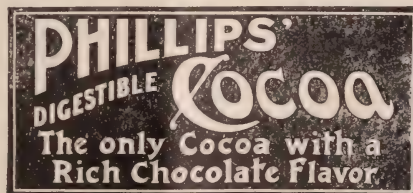
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A FOOD (FROM THE COCOA BEAN)



Specially Prepared so as Not to distress the most Delicate Stomach

NUTRITIOUS AND DELICIOUS.
WHOLLY DIFFERENT FROM OTHER COCOAS.

THE CHAS. H. PHILLIPS CHEMICAL CO., 77 Pine St., NEW YORK.

sequent traction flexion and direct thumb pressure have not yet failed to accurately force the lower fragment into its proper position. Separated epiphysis of the lower end of the radius is likewise easily reducible by this manipulation. For comminuted or complicated or very oblique fractures extension and molding alone are called for in the most instances.

"The patient does not anticipate what is coming, the two movements are made with lightning-like rapidity in a small fraction of a second, and, in nearly every case, perfect reduction has been accomplished before the patient realizes that he has been hurt. So that anæsthesia is unnecessary for making a single effort at reduction by the proposed method. Should the manipulation fail to secure perfect reduction at the first attempt, it is better not to repeat the maneuver until anæsthesia has been induced, for the pain of repeating it would be intolerable. Failing in one effort then, it is well to etherize and try again, first this, and afterward, if necessary, any other method that seemed advisable to secure perfect reduction. But thus far cases that have been seen within a week of the accident at the Pennsylvania Hospital never had to be anæsthetized since involving the method mentioned; all have been reduced at the first attempt. In cases older than one week, with displacement persisting, it is well to anæsthetize before making any effort at reduction. The new method may then first be resorted to, and will often be found the best means of performing both fracture and reduction."

Wabash Railway Surgeons.—The Wabash Railway Surgical Association met in annual convention in St. Louis, November 9, 1899. In attendance were many of the most influential and prominent practitioners in the States through which the railroad passes. The business of the meeting was the election of officers for the coming year and the reading of papers on subjects of interest to the members. Those who were on the programme for the papers included:

Dr. Miles F. Porter, Fort Wayne, Ind.; Dr. Geo. W. Crile, Cleveland, O.; Dr. J. W. Hairgrove, Jacksonville, Ill.; Dr. E. H. Griswold, Peru, Ind.; Dr. J. Y. McLachlin, Glencoe, Ont.; Dr. C. H. Stemen, Fort Wayne, Ind.; Dr. H. C. Howard, Champaign, Ill.; Dr. William Parker, Mount Sterling, Ill.

Sessions were held both in the morning and afternoon. Dr. James A. Duncan, President of the association, presided at the meeting. Dr. C. B. Stemen, who has been Secretary of the association since it was organized, was re-elected to the position. Dr. J. W. Young, the Vice-President of the association, having died during the past year, his son was asked to act in his stead during the meeting. Delegates were present from Canada, New York, Michigan, Indiana, Iowa, Illinois, Missouri, and Kansas. The election of officers resulted in the selection of Dr. Jabez N. Jackson, of Kansas City, President; E. H. Griswold, Vice-President; C. B. Stemen, Secretary. It was decided to hold the next annual meeting at St. Louis on the second Thursday of November in 1900.

There is a tendency among surgeons to discard the classical operation and amputate above the ankle, believing that it is better to amputate higher up and have a stump to which an artificial limb can be adjusted than to have an unsatisfactory amputation lower down.—MEISENBACH.

CORRESPONDENCE.

UNITED STATES DEPARTMENT OF AGRICULTURE,
DIVISION OF VEGETABLE PHYSIOLOGY AND PATHOLOGY. }
WASHINGTON, D. C., November 10, 1899. }

To the Editor of the INTERSTATE MEDICAL JOURNAL:

DEAR SIR—In number 10, page 485, of your esteemed journal are contained some remarks covering bacterial enzymes which are liable to mislead the reader. Permit me, therefore, to give some explanatory remarks. It is a fact known for a number of years that cultures of bacillus pyocyaneus gradually stop growing in culture solutions long before the nutrients are exhausted. It was further known that the growth of this bacillus prevents various other microbes from growing in the same solution; and, further, it was known that it is possible to cure anthrax with filtered cultures of bacillus pyocyaneus.¹

Professor Rudolf Emmerich and myself have devoted a whole year to investigations in order to explain these phenomena better than they have hitherto been explained and to isolate the active principle which we found to be a bacteriologic enzyme and which we have obtained in a dry and durable state.

We have nowhere asserted that "B. anthracis is dissolved in a few minutes while looking into the microscope," neither have we published our results in the lay press. Reporters have gotten hold of the matter, and sometimes have made incorrect statements. We should request those who are interested in the important question of immunization to read an original publication in the May number of the *Zeitschrift fuer Hygiene*. Professor Emmerich and myself vouch for the correctness of all the observations described there.

OSCAR LOEW.

Physicians and pharmaceutical manufacturers should be much interested in the recent decision handed down by Judge Kohlsaat of the United States Circuit Court at Chicago on October 12th. In a bill for injunction Fairchild Bros. & Foster, the well-known New York pharmaceutical firm, had charged Edward Otto, a Chicago druggist, with substituting an inferior preparation for "Fairchild's Essence of Pepsine" in several physicians' prescriptions. The case was actively contested, and the result cannot but be gratifying to both the medical and pharmaceutical professions. Judge Kohlsaat's decree sustained the charges made, perpetually enjoined the substitutor forever repeating his offense, and taxed him with the costs, amounting upwards of \$5,000. This decision will aid manufacturing chemists and physicians from the fraudulent practices of a certain class of druggists. Fairchild Bros. & Foster merit the thanks of the profession for their active prosecution of this substitutor.

¹ It is to be hoped that this preparation will soon be in the market.

NEW REMEDIES.

Pepto-Mangan (Gude).—Gude's pepto-mangan has been tried by me and a few colleagues in various diseases associated with a depreciated condition of the blood, altogether in *eighty cases*, and in the following I will give a few exact data concerning the observation thus far made by us.

In the simple chlorosis of females during the period of puberty we have employed Gude's pepto-mangan in about thirty cases with uniformly good results. The remedy was always well borne, digestive disturbances were never observed, the marked symptoms of headache, vertigo, palpitation of the heart, and loss of appetite were improved within a few weeks. The bodily weight increased by one-half kilogramme (about one pound). Among the histories of cases at hand the following appear especially noteworthy:

Miss Sched, aged twenty-two, suffered from œdema of the legs, general weakness, marked anæmia; menses absent for several years. Prescribed rest, vigorous diet, massage, and Gude's pepto-mangan three times daily. After six weeks' treatment œdema disappeared, menses returned, patient felt better, had better color. Four weeks later menses became abundant, although the pepto-mangan was no longer employed.

Miss R., aged twenty-eight, seamstress, marked anæmia, nervous dyspepsia, fluor albus. Besides massage, rest, etc., Gude's pepto-mangan, one teaspoonful thrice daily. After three weeks, fluor disappeared, menstruation more abundant, patient's condition perceptibly improved. The disagreeable backache had ceased, appetite and condition of bowels normal.

This preparation also proved very serviceable in cases of anæmia associated with more or less marked scrofulosis. The abscesses of the skin healed, eczema of undoubted scrofulous character disappeared. The following case is characteristic:

Margaret G., aged twelve, a weak, anæmic, and scrofulous girl, had suffered repeatedly from tonsilitis, coryza, anorexia, glandular swellings, and had a pale and sickly appearance. Prescribed for a period of six months three baths containing kreuznach mother-lye thrice weekly, and Gude's pepto-mangan, one teaspoonful thrice daily. In all 1000 grammes (two pounds) of the liquor were used. The girl now looks well, healthy complexion, red cheeks and lips, appetite good, swelling of glands has almost entirely disappeared.

It is well known that during the course of chronic malaria marked anæmia develops, which is extremely obstinate to treatment and frequently defeats all efforts to effect a cure. Even after the attacks of fever have subsided the anæmia quite often persists for a long time, and the patient becomes greatly reduced in health.

In this condition, where, as I have said, other preparations of iron frequently leave us in the lurch, Gude's pepto-mangan has rendered us good service. We have had occasion to employ this remedy sixteen times in anæmia following malaria, and report the following two cases by way of illustration:

Margaret Sch., aged twenty-six, unmarried, scrofulous tumors of the neck, anæmia following malaria, gastric catarrh; bodily weight 58 kilogrammes (about 122 pounds). Duration of treatment two months; 800 grammes of Gude's pepto-mangan used with material and continuous improvement. Vomiting and headache have disappeared, appetite good, increase of weight two kilogrammes (four pounds).

Bertha Pr., aged ten years, 20.5 kilogrammes (about forty-three pounds), marked anæmia after malaria and scarlatina, diphtheria. Five hundred grammes (one pint) of Gude's pepto-mangan administered in six weeks. Considerable improvement of the general condition. The patient had so much improved that treatment was discontinued, thinking it no longer necessary. Increase of weight 1.5 kilogrammes (three pounds).

That Gude's pepto-mangan is also an excellent remedy for children is demonstrated by the above observation, as well as the following one:

Annie and Willie D., twins, two years and nine months old. Rickety, pale and unhealthy color of face, appetite poor. Gude's pepto-mangan in wine, one teaspoonful thrice daily, altogether 300 grammes (ten ounces) used. The children take it gladly and it is well borne. Appetite has improved.

Finally, it may be mentioned that I have tried the pepto-mangan in several cases of pulmonary tuberculosis. Of course, the effect here was only relative, yet frequently we were able to improve the appetite and effect a slight gain in weight.

In the foregoing remarks I have somewhat in detail given my experience with Gude's pepto-mangan, and I have done this because I am convinced that it is worth while to institute further trials with this preparation. The observations thus far made were very encouraging. I will not attempt to define what part manganese plays in the new preparation. At any rate, it appears that compared with other ferruginous preparations, Gude's pepto-mangan has a better and more certain effect, and is characterized by the fact that it does not produce disturbance of the digestive tract.—DR. S. ASCHER, Hamburg, Germany.

Satyria.—This new product has the following formula:

Saw palmetto,
False bitter sweet,
Couch grass,
Moyra puama,
Phosphorus,
Syrup and aromatics.

Regarding its therapeutic value Dr. Ohmann-Dumesnil states (*St. Louis Medical and Surgical Journal*):

"The remedy is one which is very pleasant to take, and, I may state *en passant*, that it is not only a genito-urinary tonic, but acts favorably on the nervous system as well. Satyria, as it is called by its manufacturers, is certainly destined to fill a place in therapeutics which has not been held by any other similar remedy so far.

Ammonol.—A coal-tar product that is without depressing action upon the heart is what the medical profession long desired, but which is now fully

realized in phenylacetamid ammoniated (ammonol). The remedy has a rapid therapeutic action, reducing fever as well as relieving pain. The dose is from five to fifteen grains. The special value of this agent above other coal-tar products is its strengthening effect on the heart, making it of special value in typhoid, tuberculosis, and other asthenic fevers.

New Antikamnia Tablets.—The Antikamnia Chemical Company have recently put two special tablets on the market—antikamnia laxative tablets and antikamnia and quinine laxative tablets. The laxative action depends on aloin, cascarn, ext. belladonna, and podophyllin. We predict a cordial reception for these new products.

The Removal of Gouty Tophi by Injections of Piperazin.—Giofredi (*Gazetta degli Ospedali*, August 20, 1899) reports a case of gout in which he successfully employed injections of piperazin to remove a uratic deposit from the tendon-sheath of the peroneus longus. The man's general condition had improved under the internal administration of piperazin, but the tophus remained unaffected. He thereupon made ten injections into the mass, each consisting of eight minims of distilled water and five-sixths of a grain of piperazin. A little burning followed the first injection, but this was allayed by the application of ice, and in subsequent operations all pain was avoided by having the part first sprayed with ether. The complete absorption of the tophus was effected by the treatment. The author expresses the opinion that gouty joints might be as successfully treated in a similar way if strict antiseptic precautions were used.—*Phil. Med. Journal*, October 28, 1899.

Whether we shall consider injuries to the foot where car-wheels have run over it as a simple contusion or not, is a question. I believe this class of cases comes under a different head than contusions, but as we are discussing these particular conditions, from my experience I believe that it is a very good principle, where a car-wheel has run over a foot, that the evidence should be taken on the ground of saving the foot rather than cutting it off. I mean by that, that the foot should be amputated if the surgeon thinks it is absolutely necessary to do so; but the greater proof should be on the side of saving it. As a rule, where a car-wheel runs over a foot there is little probability of saving it. Ordinarily, a car-wheel is enough to crush the bones of the foot so completely that it would be impossible for nature to repair them; the circulation is entirely destroyed, and where a car-wheel runs over a foot and it is found impossible to save it, it should be amputated.—DR. H. P. JACK.

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TYPHOID FEVER IN ST. LOUIS.

During the past month, the city of St. Louis has been the scene of an outbreak of typhoid fever. The cases, and they have been many, seemed to have been confined to the western portion of the city, and but few have occurred outside of this district. The brains of the practitioners have been racked for an explanation of the cause of this disease in its present visitation with us. It undoubtedly must have been due to a pollution of the water supply in that district with alvine discharges from some patient suffering with enteric fever. Of course, the main water supply of the town was not polluted, for if it had been the disease would not have been confined to one quarter but would have ravaged the whole city. The cases, as a rule, were light in point of severity and not many fatal issues resulted. This is a tribute to the modern scientific treatment of the disease, in a measure, for some of the cases which recovered were of a very severe type.

This visitation of typhoid fever with us more than emphasizes the necessity of a perfect system of water filtration for the whole city. We know the virulence of the bacillus typhosus, and we know how long it will remain resident in water, especially river water and well water, not attenuating, but, on the contrary, seemingly fortifying itself in its preparatory course before invading the human intestinal canal and there exciting the disease which is so much dreaded by both laity and practitioners of medicine. We have already pointed out in these columns the great dangers that will threaten this city when the polluted sewage from the city of Chicago will be poured into the source of our water

supply through the Chicago drainage canal. The present spread of the disease is luckily confined to but a single section of the city where the water is polluted. What will be the condition of the public health when the sewage of Chicago will be added to the already polluted water supply of this city? We stand between Scylla and Charybdis, and the only haven of escape is the establishment of a water filtration plant for the whole city.

DEATH OF DR. HENRY HODGEN MUDD.

After a lingering illness extending over a period of nearly a year, Dr. Henry Hodgen Mudd died at his home in this city on November 20, 1899. In the death of Dr. Mudd this city and the West has lost a citizen who will long be remembered both for his worth as a man and for his ability as a surgeon. He was a man who had worked hard and assiduously in his chosen field for many years, and whose untimely death was undoubtedly precipitated by devotion to duty and self-sacrifice at a time when he should have been resting upon his oars. Like all assiduous workers, however, Dr. Mudd would not give up his life's work, even though warned that his strength would surely fail if he did not retire.

His name is well known in both the West and East, and his skill and conservatism in his surgical work need no recapitulation. He was very successful in practice, and he has been doing the administrative work of dean of the St. Louis Medical College for a number of years. It was largely through his efforts that the consolidation of the St. Louis and the Missouri Medical Colleges as the Medical Department of Washington University was brought about. This seems to have been the culmination of all his work. Unfortunately he did not wear long the title of dean of these consolidated colleges.

His death has created a profound impression upon both the local laity and profession. Dr. Mudd is mourned by countless friends in the city and all over the country. His name will ever be cherished in loving and respected remembrance by all who had the good fortune to have known him either as patient or colleague.

ANTI-STREPTOCOCCIC SERUM.

We hear much of the "decadence of the anti-streptococcic serum." We were hopeful of great results when the anti-streptococcic serum was first launched on the sea of modern therapy. It seemed to be a remedy based on purely scientific principles, and one that was sure to be efficacious in conditions where its use was indicated—*i. e.*, streptococcus infections. Knowing, then, no reason why this remedy should prove so ineffectual as some of our *confreres* would have us believe, it is high time that we look into this matter before the remedy is discarded as being a useless and, what is still worse, a harmful agent in the treatment of streptococcus infections. In the first place we, of course, understand that this agent is indicated as an antagonist to infections caused by the streptococcus pyogenes *only*. In order that we may know the true nature of the infection with which we are dealing, it is very essential that careful bacteriologic investigation should be made, and a positive bacteriologic

diagnosis of streptococcus infection be made before a single injection of the serum is performed.

I attribute most of the failures in the use of the anti-streptococcic serum to the fact that the cases so treated were not cases of streptococcic infections, or were cases of streptococcus infection with other infections complicating, such as staphylococcus, colon bacillus, etc. From personal experience in three cases I am confident that the serum exerted life-saving effects. It is, therefore, emphatically to be enjoined upon the profession that the use of this serum should be absolutely restricted to cases in which bacteriologic diagnosis of the streptococcus pyogenes has been made. In no other way can we hope to obtain either good results in the treatment of streptococcus infections or a correct literature for the guidance of the profession.

G.

MEDICAL EXAMINATIONS OF PUPILS IN PUBLIC SCHOOLS.

We note in an editorial in the *Philadelphia Medical Journal* for December 2, 1899, an account of the examination of pupils in the Philadelphia High School for Girls, with a report for the month of September, 1899, drawn up by the medical examiner for that school, Dr. Katherine Kollock. The services of this examiner are varied, consisting in the examination of new pupils for vaccination marks, the vaccination of the unvaccinated, examination of the throat, ear, etc., and the providing of dry clothing for the pupils on stormy days when they come to the school with wet clothing. We would call attention to the effective work conducted by the Medical Society of City Hospital Alumni of this city in this direction. A systematic medical supervision of the public schools of this city was conducted by the members of this society during the past year and much good was accomplished in the way of discovering cases of diphtheria, errors of refraction, and disturbances of various kinds which needed medical attention and which necessitated taking children from school for the time being. This work was performed gratis. Subsequently a recommendation was made to the school board of this city that medical officers be appointed, by competitive examination, and that these officers should visit the schools at an appointed hour every day and examine the pupils. Owing to the lack of funds, nothing has been done as yet by the authorities, but it is to be hoped that the recommendations will be carried out, and that a regularly salaried corps of examiners be appointed, in the manner indicated. The object is one which appeals to all, laity and medical men alike, and we trust that the day is not far distant when the culmination of this good work done by the City Hospital Society will be brought about.

ON ANTENATAL THERAPEUTICS.

J. W. Ballantyne (*Brit. Med. Jour.*), in his concluding lecture on antenatal pathology, delivered in the University of Edinburgh, gives a good survey of the situation in the way of the possibilities of antenatal therapeutics. He thinks that the fœtus is liable to pathologic conditions as wide almost as those of the adult. The phenomena of antenatal pathology are of many kinds—sterility, single and double monstrosities, abortions,

still-births, mortinatality, twinning, foetal diseases, many tumors, congenital debility, tendencies involving heredity and leading to the later development of tuberculosis, rheumatism, and a great many neuropathic disorders. The possibilities of antenatal therapeutics are great. Antenatal therapeutics may be divided into the treatment of the foetus before birth, during birth, and after birth. It is in the domain of surgery that post-natal treatment of antenatal morbid states has secured the most trustworthy triumphs.

Club foot, cleft palate, hare-lip, phimosi, imperforate hymen and anus, congenital dislocation of the hip, shoulder and knee, torticollis, spina bifida, congenital fistulae, cysts, and tumors of various regions, umbilical and other herniae, extroversion of the bladder, atresia of the vagina, urethra or vulva, epispadias, hypospadias and non-descent of the testis, vulvar anus and supernumerary digits, syndactyly, congenital absence of fibula, tibia or radius, etc. In the repair of many of these deformities surgery has been very successful, but in some conditions, such as extroversion of the bladder, congenital absence of bones, etc., efforts in the direction of repair have been mostly barren of good results. In the direction of medicinal treatment of some of the affections of the antenatal period, some good results have been obtained; for instance, in feeding thyroid extract in cretinism, and the administration of mercury for syphilitic conditions. Wonderful results have been obtained in the treatment of congenital nervous affections, such as medically regulated educational training of those congenitally blind, deaf and dumb, and idiotic. In one direction the treatment of idiocy has not been altogether encouraging—*i. e.*, the performance of craniectomy for microcephalic idiocy. The operation is sometimes followed by improvement up to a certain point, when all that is gained is as steadily lost.

Intranatal therapeutics is mainly preventive in its character and naturally falls into the hands of the obstetrician. By the registration of still-births much might be gained by the profession, for in that way dissections would be made and much might be learned for future guidance. Antenatal treatment—*i. e.*, intrauterine—mainly consists in bringing medicinal and hygienic influences to bear upon the embryo and foetus while still *in utero*. Of course, it is absolutely necessary that these shall act first upon the mother; antenatal treatment is primarily maternal. It is in syphilis that antenatal therapeutic measures are especially efficacious.

In malaria, also, much is gained by the administration of quinine, although we must remember the likelihood of producing a miscarriage or abortion by giving cinchona or its derivatives to the pregnant woman.

Potassium chlorate is good to prevent the occurrence of abortion, as has been proved in the experience of Simpson and Lawson Tait.

Puericulture.—The subject of maternal impressions is one which is generally misunderstood or not understood at all, not only by the laity, but also by the medical profession. The whole situation may be summed up in a nut-shell by saying that the pregnant mother should not be subjected to unpleasant emotions, simply for the reason that we desire to have the *mens sana in corpore sano*.

CONCERNING AMAMTA MUSCARIA.

The amamta muscaria was so named because in former times an infusion of it was used for fly poison. Of the many poisonous mushrooms which grow in the woods this seems to possess more than passing interest in consequence of its peculiar properties and appearance. It has a bright scarlet cap covered with warts or spongy scales. The huge size to which it sometimes grows, its universality of growth, and its abundance combine to bring it into conspicuous notice. It is variable in color, being at times found scarlet, carmine, orange, greenish-yellow, pale brown or even white in hue, and is often mistaken for edible species. Its poison is active and has caused numerous accidents; its action upon most persons is that of a narcotic, resembling opium in its more immediate effects. A single specimen has caused death when eaten in the fresh state, and a little of the juice of it injected under the skin of small birds has killed them in a few hours. From investigation it has been demonstrated that the toxic principle can be partially removed by heat. The peasantry in the north of Russia, Scandinavia, and about Nice and in Savoy are large consumers of it.

The Ostiacks, the Kamtschatdales, and other inhabitants of Asiatic Russia use it as an intoxicant. Its intoxicating power is strongest when eaten raw. Langsdorff says the most powerful effect is produced by drying the fungus and swallowing it without mastication. This seems to bring on a state of inebriation closely bordering upon delirium, and is usually accompanied more or less with spasmodic affections. It is decocted with the runners of the willow-herb, *Epilobium angustifolium*, or the fruit of the whortleberry, *Vaccinium uliginosum*, and made into a highly intoxicating liquor called monka mohr by the Russians. This practice, common enough among the tribes of northern Asiatic Russia, is now confined almost entirely to the nomadic Korjaks, a people inhabiting the region near the Gulf of Penzhinsk, Behring Strait. The intoxicating liquor from this mushroom was much used among all the tribes of northern Asiatic Russia until they came in closer contact with the Russians, from whom they learned the habit of drinking spirits.

Keenan says that the habitual use of this liquor completely shatters the nervous system, and its sale by Russian traders to the natives has been made a penal offense. Like the opium trade in China, however, in spite of the strongest prohibitions, a profitable business is done. The mushroom does not grow on the barren steppes over which these nomadic tribes wander, and the Russian trader can demand almost fabulous prices for the intoxicating mushrooms. A reindeer may be had in exchange for one or two mushrooms, and twenty dollars' worth of furs may be bought with a single specimen. They are generally collected in hot weather and strung up to dry, but they are more prized when found already dried on the ground. In the latter case their intoxicating qualities are more powerful than when artificially prepared. When naturally dried the mushroom is rolled up like a bolus and swallowed by the natives without mastication, which they say disorders the stomach. One large or two small specimens swallowed whole are sufficient to produce a pleasant intoxication for a whole day; and if water be drunk immediately after, the narcotic principle is increased and the sensation prolonged. Three or four mushrooms di-

luted in a decoction of willow-herb or whortleberry would make a large company drunk.

So enduring are the effects of this poison that persons have been intoxicated by eating the flesh of a reindeer which had been killed shortly after feeding upon the mushroom, and children have been poisoned with the milk of women under the influence of this intoxicant. The desired narcotic effect comes on from one to two hours after the mushroom has been swallowed. A wild and furious excitement is produced, but does not seem to be followed by any unpleasant results. In some cases the symptoms are often accompanied by extraordinary agility and enormous increase of muscular strength. Instances are recorded of men under the influence of this poison running ten miles, carrying on their backs a sack of flour weighing 120 pounds, which in their normal condition they could barely lift. These people personify this mushroom and assert that they are only obeying its behests when they commit suicide or other crimes under its influence. They have recourse to the use of this intoxicant when they wish to fortify themselves for premeditated assassination.

The acrid principle possessed by this mushroom is the same as that which is found in hashish and Indian hemp. It is one of the commonest of Scandinavian plants, and the inhabitants of that region have been long acquainted with its intoxicating properties.

THE WAR IN SOUTH AFRICA.

The *British Medical Journal* for October 28th says: "The announcement made by the Under-Secretary of State for War that Sir William MacCormac, the President of the Royal College of Surgeons of England, had expressed his willingness to proceed to South Africa with Sir Redvers Buller's Field Force, was received with loud cheers by the House of Commons, and has caused the greatest satisfaction throughout the country. We understand that the Director-General of the Army Medical Department felt that it would be desirable to have at the disposal of the medical staff in South Africa the services of consulting surgeons of large experience to take a share, in consultation with the medical officers in charge of hospitals or convoys of wounded, in the treatment of cases in which the question of the performance of major operations might arise. Decisions in such cases, which are of momentous importance to the wounded men, are matters of great anxiety and responsibility, and bear heavily on officers already subjected to great strain. Colonel Stevenson, R. A. M. C., the eminent professor of military surgery at the Army Medical School at Netley, is the principal medical officer of the lines of communication; but we believe that in view of the probability that there will be several lines of communication, the Director-General felt that it would be advisable to have at least one consulting surgeon with each force, and he took the view that the emergency was one in which the co-operation of leading civil surgeons might properly be invited. The suggestion made by the Director-General, which is in consonance with the scheme of Mobilization for Home Defense under which civilian surgeons are attached in a consulting capacity to large base hospitals, was approved by the Secretary of State for War, who naturally turned to Sir William MacCormac—whose experience of surgery in the

field is unrivaled in this country—for his advice. Sir William expressed his approval of the plans suggested by the Director-General, and with praiseworthy patriotism offered his own services, which will be of the highest value. He first saw service during the Franco-Prussian war, when with Dr. Marion Sims and Dr. Frank, of Cannes, he organized the Anglo-American Ambulance, to which he acted as chief surgeon.

The ambulance rendered excellent service at Sedan and subsequently Sir William also went to the Turco-Servian war with the ambulance and was present at the battle of Alexinatz, which brought that campaign to an end. He has since taken an active part as a representative of the medical profession on every occasion on which his country has organized ambulance work in the field, and is at the present time one of the representatives of the National Society for Aid to Sick and Wounded in War on the Central British Red Cross Committee. Mr. Wyndham said that the War Office would probably arrange that Sir William MacCormac should have the assistance of two especially selected civil surgeons. These surgeons have not been selected, and it would be premature to publish the names of those who are mentioned as likely to be willing to place their services at the disposal of the War Office, but it may be said that among the names will probably be found some of the most experienced surgeons in the country. During the Franco-Prussian war, many of the leading German surgeons gave their services to their country in a consulting capacity. Thus von Langenbeck was attached to the staff of the German Emperor, and such men as Thiersch, Volkmann, Stromeyer, and Billroth were consulting surgeons attached to various army corps, while von Esmarch was attached to the base hospitals in Berlin as surgeon-in-charge. During the Russo-Turkish war, Pirogoff accompanied the Russian army as did also E. von Bergmann, at that time professor of surgery at Dorpat. An arrangement of the kind in force in the Prussian army in 1870 is, we understand, that contemplated at the present time by the Director-General of the Army Medical Department. The date of Sir William MacCormac's departure is not yet settled, but he has expressed his willingness to start at short notice."

THE ANTI-VIVISECTIONISTS.

It is still a question *sub judice* whether or not it is good policy for scientific men to pay sufficient attention to the mad ravings of the so-called anti-vivisectionists, and others of similar cults, to warrant writing adversely about them, or to reply to any of their virulent and often false attacks upon professional men who are pursuing scientific investigations. Personally, we believe in the "let-alone" doctrine in this regard; but when we read such a sheet as emanates from the city of Boston, the "official organ" of the anti-vivisectionists of that district, in which *false* statements are made, we cannot refrain from emitting a few thoughts in condemnation thereof. In the first place, it may be well to state that we believe that the very root of this crusade against the use of the lower animals for scientific purposes is to be found in the actual hatred of some classes for science *per se*. Not daring to lose caste with their "set" by openly denouncing science and scientific men, these *parvenus*—we use the

term in the same sense that the ultra-fashionable use it—have looked about them for some cloak under which to hide their personalities and their real motives while battling with their object of hatred—science. In the “rights of the dog *et al.*” they have found their cloak, and they have grown right eloquent upon the “rights of that noble animal.” Just fancy what rights are due that public benefactor, that apostle of nobility and true gentility, that exponent of all that is manly, or rather, “dogly”—the dog! Read that tearful sheet, *Our Dumb Animals*, and then dare deny that the dog is not more noble than the man, his master! Verily, if we but read all these different publications concerning the glorious attributes of the dog and cat, we cannot help coming to the conclusion that man is occupying a false position with reference to the dog and cat—the dog and cat should rule the household, while man should be content to obey their behests.

Having, then, said something concerning the *raison d'être* of this latter-day tomfoolery, let us look over some of their statements in regard to the customs of physicians, physiologists, bacteriologists, etc., in their work upon the lower animals. We read that the New England Anti-Vivisection Society denounces vivisection because “animals are tortured by these means, and anesthetics are seldom efficiently administered during the course of these operations.” We would respectfully inquire the source of this society’s information in this regard—*i. e.*, concerning the *efficiency* of the administration of anesthetics? But, then, what’s the use? This statement is only in accord with the general “know-it-all” policy of these defenders of the feline and canine species. They make assertions in most cases founded purely upon their dogmatic ideas, and having no room in the realm of reason. Were their remarks taken by all readers for what they are worth, then would further comment upon them be unnecessary. But as it is, we are forced to say something in order to counteract their evil influence upon those people who have neither time nor inclination to think for themselves, but must take statements heard or read by them as gospel truths.

Again, most heinous crime of all, these anti-vivisectionists contend, with an assurance that is positively laughable, but yet which is painfully detrimental to the future welfare of this commonwealth, *that the practice of vaccination is of no efficacy in the prevention of the spread of small-pox, and that actual harm is induced by the practice of that procedure.* The inestimable value of vaccination has been long since proved both by statistics and by individual cases, and we need say nothing about *that*: we simply mention that statement to show the depths to which these followers of “anti-science” will stoop in their blind efforts to *ostensibly* seek to spare the feelings and the lives of their dumb friends, but *really* to check the future progress of medicine.

Having now shown the falsity of their statements and their unwillingness to admit what all the world has accepted as true, a word or two is in order to show *why* vivisection should be practiced. To begin with, we will call attention to the decrease in the number of cases of variola and the lessening in the severity of that affection by the practice of vaccination, or protective inoculation against that dread disease. Furthermore, look at the vast change which has been wrought,

as if by magic, in the mortality tables of diphtheria, that erstwhile deadly foe to the younger portion of our community, by means of the curative powers of the antitoxin of diphtheria. And pray tell us, "anti-scientists," where would we get our antitoxin were vivisection abandoned? What would become of our fond hopes of procuring antitoxins for all the infectious diseases which infest the human family, were we deprived of the use of the lower animals? The future of medicine depends upon this thing, and why should we relinquish all this? Let these puerile fancies about the torture of dumb animals be swept away by the thought that vast numbers of the human family who are now yearly dying will be in the future saved for useful and profitable lives. We can hardly believe that these anti-vivisectionists have carefully weighed in the balance human lives on the one scale and the lives of lower animals on the other. If their only ground for argument was needless cruelty inflicted on these animals while they are being used for experimental purposes, then that could easily be disposed of. Unfortunately, however, they take the stand that no good is accomplished by this kind of work. It is a false ground; they argue from false premises and therefore their ideas are entirely devoid of reason. It is not ignorance on their part; it is malicious hatred of all that is scientific, and of all that smacks of scientific investigation. It is another case of the red flag waved in the face of the furious bull by the picador—with this difference: the bull has some reason for being infuriated, while these human bulls have none.

CAN WE OBTAIN A PROTECTIVE SERUM AGAINST YELLOW FEVER FROM THE TOXINS OF THE COLON GROUP?

A very interesting letter from Eugene Wasdin, Surgeon United States Marine Hospital Service, at present working in the Pasteur Institute in Paris, is printed in the *Public Health Reports*, November 24, 1899. He is comparing, with M. Letarge, the results of experiments with his "serum anti-coli" against the bacillus icteroides in animals, and hopes soon to determine its possible value.

The similarity of bacillus icteroides in many cultural characteristics to certain varieties of bacillus coli communis, b. typhi, and b. cholerae suis, et b. peri-pleuro-pneumoniae, rather, indicates, as shown in the report of the Havana Commission, a great similarity of their toxins, since animals succumb to these toxins in a very similar manner. Should this prove true, it rather easily follows that any substance introduced into the economy capable of reinforcing the protective powers of the body, mainly of the blood serum, against any one of this closely allied group of organisms, will also be found useful against the other members of the group. This has been found true, to a certain extent, of the "serum anti-coli" (Letarge), against b. peri-pleuro-pneumoniae and b. cholerae suis (Hungary). Not so much against b. typhi.

This group of toxins is so variable that thus far no standard has been attained, the virulence of the cultures not being a sure criterion of its toxic power at all times. Wasdin says that much of this is due to individual resistance of the animal inoculated. The most protective serum, then, may be derived from some other member of the allied group against yel-

low fever. This may be seen in the experiments of Reed and Carroll of attaining immunity in animals against *b. icteroides* by the use of sterile cultures of *b. cholerae suis*, and *vice versa*; yet this result does not prove identity of these organisms—only that the resistance of the animal has been increased in either case by appropriate means. The same result may possibly be obtained with nearly allied colon organisms.

In this laboratory it has been attained in the case of Hungarian hog cholera and an allied colon organism (Letarge).

Acute infectious diseases are characterized by certain symptoms and anatomic changes which indicate the mode of reaction of the animal (man) to the specific poison; and since these reactions are of such invariable character as to specify the disease, it seems reasonable that the toxins giving rise to them must also be invariable. Therefore, despite the fact of the immunity gained from the use of the one organism against the other of this group, it can be concluded that these accessory facts of similarity in culture and in the toxins does not diminish or extinguish the important characteristic of specificity.

As it is well known, Reed and Carroll, representing the Army Medical Department, have claimed that the bacillus *icteroides*, the supposed cause of yellow fever, is nothing more or less than a changed form of the bacillus *cholerae suis* because they say that they have obtained immunity to the so-called *b. icteroides* by means of immunizing doses of a serum derived from the toxins of *b. cholerae suis*. Therefore, say Reed and Carroll, the bacillus *icteroides* is the *b. cholerae suis*, because the toxin is the same, or similar, in both cases. Now, from this communication from Paris we learn that the toxins of all the allied group are similar. This explains exactly why Reed and Carroll obtained results supposedly so different from those of others.

THE COLD BATH IN TYPHOID FEVER.

We recognize now that the cold bath or one of its modified forms is the remedy *par excellence* in the treatment of enteric fever. When this departure was first made in the treatment of typhoid fever, the profession, as it usually does under similar circumstances, rushed into the thing with a vengeance that threatened to play havoc with the water supply of the world. They immersed their patients in water, oftentimes without any conception of the manner of action of that simple remedy—*i. e.*, without stopping to think of the physiologic action of water applied to the skin. From this mad excitement the profession has "cooled" down, until now it is almost universally known exactly *when* to use the cold bath, *how* to use it, and *when not* to use it. If we stop for a moment to consider the physiology of the process, we will remember that the cooling effect of the bath is obtained *not* immediately, but after the patient is taken from the bath. In order that reduction of temperature should follow the administration of the bath, friction should be practiced with the bath. Reduction of the temperature is not all that we want to accomplish by this means; above all, we want to support the patient and exert an influence for the better upon the general nervous system, with an increased elimination through the skin.

ORIGINAL ARTICLES.

ABSTRACT OF AN ADDRESS ON MEDICAL PROGRESS DELIVERED IN THE MATER MISERICORDIÆ HOS- PITAL, DUBLIN, ON THE OPENING OF THE THIRTY-EIGHTH SESSION OF THE IN- STITUTION, OCTOBER 23, 1899.

BY THOMAS MORE MADDEN, M. D., F. R. C. S. E., of Dublin,
M. A. O. (*Honoris Causa*) Royal University, Ireland; Obstetric Physician and Gynæcologist to the Hospital, etc.

GENTLEMEN: The enduring influence of old usage on even the most progressive of professions is manifest on the present occasion. Thus in the earliest records of medicine we find that the neophytes' initiation into the temple of Æsculapius was accompanied by elaborate ceremonials, concluding with an exhortation or address to the probationer, and the witnesses of his reception. Of those ancient rites one alone survives. The modern medical student is no longer crowned with garlands, as his predecessors were on their entrance into the Grecian fane. The vestal's song is no longer raised, nor are the libations now poured forth, at least in public, in his honor. Nevertheless from that remote period down to those closing days of the nineteenth century, he has remained unemancipated from the penalties of the introductory address on the commencement of his course.

In accordance, therefore, with that time-honored observance, I have, by the favor of my colleagues, been deputed on this inauguration of the Thirty-eighth Annual Session of the Mater Misericordiæ Hospital, to say a few words of welcome and counsel to our class and to those who are about to join our ranks.

GROWTH AND PRESENT POSITION OF THE MATER MISERICORDIÆ HOSPITAL.

The fact that nearly twenty years have elapsed since I last delivered an introductory address in this place, recalls to my mind the alterations which within that period have occurred in the Mater Hospital and in the science therein cultivated.

In the establishment of the Mater Hospital, the Sisters of Mercy, by whom it was founded close on forty years ago, and by whom it has since been maintained, with little assistance beyond the inexhaustible benevolence of Irish charity, put before themselves a high ideal, the fruition of which you now see in this institution which, in an independent official report, has been aptly described as "The Queen of Dublin Hospitals."

Of the work done here it may suffice to say that during the past year alone 3,522 patients have been treated within the wards, 23,061 cases relieved in the extern departments; and 696 operations (not including

gynæcological and eye operations) were performed in the theater of the hospital. Nor is there any form of disease or accident that may afflict mankind excluded from these portals, which, like unto that divine mercy of which this institution is the creation, are ever freely open to all who are impelled by suffering and poverty to seek its succor, without distinction of creed or race or class.

Within the period covered by this address the vital importance of thoroughly aseptic conditions in all that appertains to the care and treatment of the sick has become universally recognized. With this object therefore, the Sisters of Mercy have incurred a large expenditure to enforce in accordance with the views of their medical staff the latest teaching of sanitation, and, hence, our operating theaters have been reconstructed, ventilation and drainage improved, and a most efficient and well-trained nursing staff provided for our public and private wards as well as for the necessities of general practice throughout every part of the country wherein the services of the Mater nurses are in constant requisition.

Whilst such consideration has been given to the primary purpose of the institution, those entrusted with its administration have in nowise been oblivious of its secondary and almost equally important function, viz.: that of serving as a center of clinical medical education and scientific teaching. Hence, we have been here provided with one of the first and probably the best-equipped pathological laboratories ever attached to an Irish hospital. This department, on the researches of which the present practice of medicine is so largely dependent, has been placed under the direction of an authority whose name is recognized wherever modern pathology and bacteriology are studied. In like manner the first adequate installation in Ireland of the apparatus necessary for that Roentgen ray work by which so many of the obscurities of medico-chirurgical practice are now elucidated, was here instituted. A similar desire to keep well abreast of the flowing tide of modern progress was shown in the establishment of the special office of anæsthetist, which has been well justified by the consequent immunity from risk afforded by the improved methods of anæsthesia employed here.

INFLUENCE OF BACTERIOLOGICAL DISCOVERY ON THE PROGRESS OF CLINICAL MEDICINE.

Turning from the work of our hospital and its *alumni* to that of the healing art, of which it is the clinical theater, we find here, as elsewhere, the most distinct imprint of recent progress in every department of practical medicine, surgery, and gynæcology, as well as in ophthalmology, dermatology, and the other special branches of modern medico-chirurgical science. The rapidity of this advance has been such that the highest professional accomplishments attainable twenty years ago have already become almost as obsolete for a student as the knowledge of Hippocrates in physic, or the skill of Ambroise Paré in surgery, might prove, could either be now tested by a modern medical examination.

So many and complex are the factors in that revolution in medicine, that it would be useless to attempt any survey, however brief, over a field of such extent. Nevertheless, I may, perhaps, be permitted a passing allu-

sion to one point, which, trite as it must be to every member of the profession, may possibly interest some of our junior friends present, as affording a master-key to many of the most signal triumphs of recent medical and surgical practice. I refer to the germ theory of disease. On that doctrine, moreover, largely rests the foundation of modern preventive medicine and sanitary science, by which the limitation of disease, the prolongation of life, and the increment of the welfare of the community have been so signally accomplished within the past few years.

Recent, however, as has been the acceptance of the germ or bacterial theory, that dogma was originally promulgated more than two hundred years ago by Leeuwenhoek, and was subsequently reiterated at intervals down to the middle of the present century by other writers, whose teaching had apparently as little practical influence on older ideas as erstwhile had the voice of the inspired precursor whose proclamations of far higher and more certain truths once fell unheeded in the Palestine wilderness.

Nor was it until long after the actuality of the facts established in our own time by Pasteur, Lister, and Koch had been demonstrated beyond controversy, that this theory became universally adopted as the basis of a new pathology and therapeutics. And only since then has the medical practitioner been furnished by the bacteriologist with an accurate knowledge of the etiology of many of the obscurest forms of disease. Thus, for instance, we now know that diphtheria, septicemia, cholera, tuberculosis, lupus, typhoid, as well as countless other maladies, including the malarial fevers of equatorial regions and the bubonic plague which in former times wended its path of devastation from its remote habitat in the East, even to this sea-girt western land, and with a revisitation of which we are at present apparently threatened, are one and all distinctly traceable to bacterial virus, communicable, in each instance, by specifically infective micro-organisms. These pathogenic, or disease-bearing, microbes, to whatever class they belong, whether bacteria, bacilli, spirilla, streptococci, or however else named, possess certain common characteristics. Thus they present themselves as microscopically minute organisms capable of rapid and indefinite self-reproduction within the system to which they may gain access, and consisting essentially of a single cell by the distinctive form of which, in each case, their classification and attributes can be differentiated.

Such are the prolific seeds of disease with which the air we breathe, the water we drink, the food we consume so teem that our existence would be impossible were it not for that constitutional conservative force which in former times was described as the *vis medicatrix naturæ*, and which, as we now know, is manifest in the physiological defensive action of the leucocytes or white corpuscles of the blood. These, by their power of ingesting, and rendering innocuous such injurious particulate matter as may have gained access to the system, act as the garrison of the beleaguered citadel of life, and so under normal circumstances repel the invading hosts of the pathogenic microbic enemies by which it is surrounded.

Legion, however, as is the number of our bacterial foes, a still larger proportion of microbes fulfill functions of vital importance and utility in the economy of nature. Such, for instance, are the micro-organisms by

which the oxidizable and nitrogenous material of effete and decomposing organic matter is seized upon and resolved into its proximate elements. In this way then is restored to the universe, for the maintenance of vegetable and animal existence, that indispensable stock of chemical constituents in default of which this fair world of ours would in time inevitably become reduced to the lifeless desolation of its pale-faced satellite—

"See! all things with each other blending,
Each to all its being lending,
All on each in turn depending,
Floating, mingling, interweaving—
Rising, sinking, and receiving
Each from each, while each is giving
On to each, still upward tending,
And everywhere diffused is Harmony unending."

It would be impossible in this address to dwell on our further indebtedness to the bacteriological scientists who have not only added to our knowledge of the etiology of diseases, but have, moreover, armed us with the newer weapons of sero-therapy and specific antitoxins now available for their treatment or prevention.

SURGICAL PROGRESS.

In the domain of surgery the evidence of rapid advance since my former address is yet more apparent than in that of medicine, as may be exemplified by a moment's reference to the upgrowth and development of antiseptic chirurgical practice within that period. The fruits of this are, perhaps, most conspicuous in the successful operations now resorted to in countless cases—such, for instance, as tubercular peritonitis, renal, intestinal, gastric, and other diseases, and lesions within the peritoneal cavity, from any effective interposition with which our predecessors were almost necessarily debarred.

These procedures, with many others of equal importance that need not be here enumerated, which in my youth were either altogether undreamt of, or which, if occasionally attempted, were then associated with such fatality as to preclude their general performance, are now daily accomplished with smaller risk than might have attended the opening of a whitlow in pre-antiseptic days. Nor is it necessary to remind my auditors that this vast improvement in the practice of surgery is largely traceable to the example and teachings of Lord Lister, whose well-deserved elevation to the peerage can add but little to a fame that must endure as long as the art of surgery is cultivated.

RECENT GYNÆCOLOGY.

Lastly, in this connection, I cannot altogether refrain from alluding to the branch of medicine with which I am most intimately concerned. But however tempted I may be to dilate on the progress of modern gynæcology, I shall confine, within the narrowest possible limits, my reference to a subject that, however interesting to myself, would probably prove intolerably wearisome to the majority of my present audience.

It will, therefore, be enough to say here that this youngest of the

tripart divisions of the healing art has exhibited a progressive development fully equal to that of either of its medico-chirurgical parent sciences, and that this specialism, the very name of which was unknown in my student days, has within the past few years advanced by leaps and bounds to its present prominence in the foreground of medical progress.

The diseases and abnormalities of what was formerly the *terra incognita Australis* of pathology, viz.: the region of the uterus and its appendages, have now become as accurately differentiated and as successfully treated as those of any of the external structures of the body. Thus, for instance, fibromyomata and carcinoma of the uterus, the various displacements of that organ, the affections of the ovarian and tubal adnexa, with numberless other gynæcological disorders, the victims of which were formerly in many instances abandoned to lives of hopeless misery, have now been brought within the reach of accurate diagnosis and generally successful treatment.

THE FUTURE OF YOUNG MEDICAL MEN.

Before bringing to a close observations which have probably already proved sufficiently prolonged, I must, in imitation of the postscript to a lady's letter, in which the gist of the communication generally lies, add a few words especially addressed to the members of our class in whose behalf a lecture of this kind is primarily intended.

To you, gentlemen, I therefore venture to offer, as I did to your predecessors here—"twenty golden years ago"—my sincere congratulations on your selection of the profession of medicine. For although since then the requirements of the examination boards have been vastly increased in extent and stringency—although our calling has become now so overcrowded, in many places, that the struggle of early professional life must too frequently be waged under circumstances of keenest competition and ill-remunerated toil—nevertheless medicine still retains gifts and advantages above those of any other earthly profession. Assuredly our calling affords the largest opportunities that man can enjoy for benevolence to humanity. Moreover, not merely does it arm us with the power of relieving suffering, prolonging life, restoring banished reason to its dominion over matter, and mitigating the pangs attendant on the departing spirit's separation from its frail tenement, but even from that more material point of view which may possibly be no less important to you than to myself, it also offers other compensations to its followers.

Unlike almost every other profession, medicine is cosmopolitan, and wherever acquired may be practiced in all climes and circumstances wherein man when stricken by disease or accident must of necessity still turn, as he did in the Homeric days of old, to "A wise physician skilled his wounds to heal" for respite from suffering and from death.

Nor until pain be annihilated, and death be swallowed up in the final victory of eternity over time, need any well-qualified practitioner of medicine who is blessed with the essential attributes of rectitude of conduct, kindness of heart, sympathy of demeanor, and energy of character, ever doubt his ability to secure, by the exercise of his profession, in any part of the world, a sufficient competency and an honorable position.

Gentlemen, on entering the medical profession you must assume many responsibilities as well as gain some privileges. On you, therefore, it will devolve to support the reputation of your calling by a conscientious zeal in the honorable discharge of your great mission to the poor and suffering. Moreover, it will be your duty to add your mite of experience and of knowledge to that cairn of medical science which has been brought up to its present height by the aggregation of the individually minute contributions of your predecessors—and so maintaining the great traditions of Irish medicine, to hand it down to your successors improved and perfected by your labors.

CELTIC MEDICINE—ITS HISTORY AND LESSONS.

In this connection I may for a moment refer to the too generally forgotten fact that Irish medical men can lay claim not only to the traditions they inherit from their more immediate predecessors, but also to a history deserving of larger consideration than is now commonly given to it. For, as I have elsewhere shown, the practitioners of the healing art in this country are in truth the legitimate heirs of the oldest professional culture of which there are in existence the records in the living language of any European nation. Let me, therefore, remind you that in distant ages, when the lamp of medical knowledge was unkindled in most other countries, its light shown with comparative brilliancy in this remote *Ultima Thule*, as may be easily proved by incontrovertible historical evidence. Thus, for instance, there are still extant and accessible in the libraries of the Royal Irish Academy and Trinity College in this city, as well as in other similar collections elsewhere, a vast body of ancient Gaelic MSS., documents in many of which the distinguished history and high character of early Irish medicine are well illustrated.

From these sources we find that from the oldest period of authentic history the classic literature of Greek and Roman medicine, as well as a still more ancient native leechcraft, was cultivated in our own country even in those far-off ages. Whilst at the same epoch therapeutics, materia medica, and anatomy were studied, and surgery, gynecology, and obstetrics were practiced in Ireland, where the hereditary followers of the healing art were then held in high honor. Nay, more; we have clear evidence, which I have elsewhere sufficiently adduced, to show that the alleged marvels of modern hypnotism and the employment of anæsthetics, on which we plume ourselves as the most beneficent discovery of the present age, were, although in cruder forms, here anticipated by our remote predecessors.

Amongst the numerous collegiate centers of professional as well as of ecclesiastical learning with which this *Insula Sanctorum et Doctorum* was studded over between the sixth and sixteenth centuries, and the very ruins of many of which, such as Clonmacnois, Cashel, Meelick, Portumna, Lismore, and Monasterboice, still attest the culture and art as well as the piety of their founders, one, at least, is of special interest to us as of a distinctly medical origin, viz., *Tuaim Breacain*, near the present town of Belturbet. This college, as Dr. Healy, Bishop of Clonfert, has shown, was established by a medical practitioner of no little eminence, Saint

Bricin, whose chirurgical skill, more especially in cerebral surgery, is celebrated in our oldest annals.

All the various faculties of these Celtic Catholic universities, for such was the character of many of them, were for long ages crowded with students from every part of Europe, who, in some of them, were subjected to a course extending over a period far more protracted than even that of the modern medical student. From these institutions also were sent forth men such as Alcuin, the founder of the University of Pisa, Johannes Scotus, Erigena, who in the ninth century was regarded as the ablest writer of that age as well as the first professor of philosophy in Paris, and countless others, to diffuse the lights of learning and science as well as of faith to the ends of the earth.

Nor did that long intellectual pre-eminence cease, in medicine at least, until after the ruthless destruction of the Irish monastic universities during the reigns of Henry VIII. and Elizabeth; and even down to the middle part of the seventeenth century we find the far-extending fame of Irish medicine referred to by authorities of such eminence as Van Helmont.

To the destruction of those Celtic universities may, moreover, be dated the origin of the disabilities in the matter of higher education that for three centuries have pressed, and still press, heavily on the majority of the Irish people, and on none more forcibly than on those of them belonging, as so many here do, to the medical profession.

The latter, during all these generations, have been thus unfairly handicapped in the race of existence by the impossibility of securing, in accordance with their conscientious convictions, that full measure of academic training within the halls of a university which is so conducive to success in the higher walks of professional life or public employment, and which is accessible to their compeers of every other persuasion.

We may, however, rest well assured that in this, as in all other matters, justice, although long delayed, must, like that truth on which it is founded, eventually prevail. And, therefore, can we confidently anticipate that this last vestige of the dark shadows cast o'er our land by the successful intolerance of a by-gone age may forever be swept away in the near day-dawn of the twentieth century, which we trust will usher in the final and equitable adjustment of the Irish university question.

Whether in our day this long-cherished hope be realized or not, will, however, we are equally confident, in nowise affect your kindly relations and zealous co-operation in the mission of medicine with your brother practitioners of all other schools and denominations. Nor need we attempt to stimulate your esteem and respect for men amongst whose professional ancestors were included names such as those of Cusack, Carmichael, Graves, or Stokes, which, at home and abroad, are as imperishably engraved on the annals of our science as those of their Catholic compeers, Corrigan, O'Reilly, Lyons, or Hayden; or who, like the Anglican founder of Sir Patrick Dunn's Hospital, or Bartholomew Moss, to whom Ireland owes her great school of midwifery, the Rotunda; or Dr. Richard Steevens, by whom the hospital which bears his name was established, have left in our city enduring monuments of a medical benevolence as far above all sectarian considerations as that of the founders of the four Cath-

olic hospitals which are so largely supported by Irish charity in Dublin.

In conclusion, I would only venture to express my trust that, in the fullness of years, you, gentlemen, may one and all leave behind you such imprints on the sands of time as those I have just named did. Thus will you not only honor yourselves and your calling, but also, perchance, reflect some of your well-won credit on your clinical *Alma Mater* and on those who were once your teachers in the Mater Misericordiæ Hospital.

A DISCUSSION OF GENERAL MENINGITIS.

By T. BROOKS, M. D., of Choteau, Montana.

THE general discussion of meningitis, and especially the differential diagnosis of tuberculous and the non-tuberculous disease of the meninges of the brain and cord is certainly anything but satisfactory.

My experience with these troubles is very similar to that reported by most, if not all, writers.

Many cases are easily diagnosed as non-tuberculous in the very young, and especially is this quite true where a cause can be easily determined; but, on the other hand, in the early adult life a case with no history of any kind, with a family history clear (non-tuberculous), it is my opinion that in many cases, if not all, the true diagnosis can be reached only by macroscopical examination and an autopsy of the brain and cord.

First, I will discuss in general tuberculous meningitis. This affection is by no means confined to childhood, and, as reported by Dr. Mills in his latest work, it may be found in patients of all ages. He has met the disease in patients of all ages, from infancy to the extreme age of seventy years.

Dr. Coe, of Portland, reports having met with it in several cases of adults in middle life. While this is quite true, yet I consider the cases extremely rare when compared with that of early life.

My cases have been with the younger class exclusively. I have had under observation about twenty cases, and the oldest has been only twelve years of age. When this disease is suspected in patients beyond the age of early childhood, the diagnosis needs to be made with extreme care, weighing well all symptoms presenting, subjective and objective.

Some authors have, no doubt, correctly stated that meningeal tubercle can and does often exist where there are no symptoms of meningitis. This has been proved beyond a doubt in patients dying from other maladies; and by the examinations made during autopsy, the miliary tubercles were found; and in these cases there had never existed a single symptom of meningitis, yet they might have at various times had symptoms of meningeal irritation. Many writers have proved this assertion. Among them may be mentioned Dr. Herter, who once observed a tuberculous mass on the side of the cerebellum the size of a half dollar, and yet never a single symptom of meningitis appeared during the entire life of the patient. Purulent infection may exist and yet not a single tubercle be present; and

death may be wrongfully ascribed to tuberculous meningitis, and the symptoms may be in every way coincident with tuberculous disease, and the macroscopical evidence may be most disappointing to the unlucky diagnostician after autopsy.

There may exist dilatation of the vessel, with an occasional extravasation of blood into the membranes, or possibly a general œdematous condition may be present instead of the purulent infiltration. Then, weighing well all symptoms, we should withhold a positive diagnosis of the existence of such until there is, if possible, some (if any there be) pathognomonic symptoms, for it shows more intelligence to have made no diagnosis than to have made a wrong one.

The miliary tubercle is about the size of a small pin-head, and are scattered throughout the membrane, but often in clusters, and most commonly are located at the base of the brain, where the pia is most vascular; and another quite common location is the chamber in the upper spinal cord. The ventricles are generally distended, and the subdural space is filled quite full with a clear fluid which may, and generally becomes turbid in cases of long standing, and where the tissues involved become more general and extensive in the ventricles.

While it is not the rule, yet it has been clearly demonstrated by Dr. Eskridge and others that the tuberculous deposits often extend from brain to cord, and nearly always originate in the coverings of the cord; yet cases are on record, and from the best authority, where the entire cord had become a tuberculous mass and no symptoms appearing till only a few days prior to death. It is undoubtedly the case almost universally that when cerebro-spinal meningitis becomes chronic in nature, and death occurs several months after the first symptoms, that it is purely of tuberculous origin.

Dr. Mills says that in many cases of meningitis that a macroscopical examination is not always necessary, as death sometimes occurs from the intense toxemia resulting from infection of the arachnoidea, this having proved the case in a patient dying from delirious mania.

In many cases where macroscopical evidence is not present a culture will produce staphylococcus aureus and albus. It must be remembered that in meningitis from tuberculous processes that there is often mixed infection (and in such cases operative measures may be beneficial). These mixed infections may include the staphylococcus pyogenes aureus, streptococcus pyogenes, diplococcus intracellularis, and the micrococcus lanceolatus.

Symptoms.—There are usually no premonitory symptoms, yet a train of peculiarities nearly always is present: the patient remains fretful and "peevish" for several days or even weeks, and cases may even continue for months before the case becomes marked. Next appear dyspeptic symptoms, lack of assimilation, producing emaciation, vomiting, and the child sleeps poorly; there is headache confined to some special part or location; alternating constipation and diarrhœa, and the child cries easily.

Temperature.—This generally ranges at this period from 99.5° to 100.5° F.; as the symptoms become more pronounced the temperature gradually rises till it may reach 104° F.; this is not the rule, however—103° F. may be considered the average. The abdominal symptoms now gradually grow worse, and there is a retraction of the epigastrium. This is

a most common symptom and often decides and confirms a positive diagnosis.

The pulse becomes weak and irregular, often reaching 140 per minute. There is a general asthenic condition; constipation is the rule at this stage unless there is some tuberculous disturbance of the villi, then we may expect diarrhoea to exist.

Local muscular spasms and often general convulsions; these may be followed by local paralysis or loss of motion of some muscular regions, most commonly the lower extremities, though facial, ocular and aural paralysis is quite common; irregularities of the pupil, amaurosis, converging strabismus, generally unilateral (right most common), photophobia?, diplopia, and often total deafness. Opisthotonos of a varying degree, and nystagmus, tenderness at base of brain and spinal cord. Breathing becomes laborious and finally the "Cheyne-Stokes," and a profound coma. The abdomen at last may become distended, though not invariably.

The outcome is surely death, as is stated by the best authorities, nearly all stating that never has a single case recovered. The cause of death is undoubtedly due to pressure in the cord.

Prognosis.—Most unfavorable.

Treatment.—*Medicinal.*—If the case can be seen at the beginning, some good can possibly be done by the use of the iodides of calcium and sodium, also bryonia. These remedies, to accomplish any good, must be pushed to a complete tolerance of the system.

Surgical.—In cases of the mixed infection (as spoken of in the first of this article), our present knowledge of the disease most certainly points to this field as the most probable rational form of treatment.

American surgeons of recent years have thoroughly demonstrated the efficacy of opening the abdominal cavity as a means of cure for tuberculous peritonitis, tabes mesentericus, and allied troubles, and the results have been gratifying, indeed; and it has also been proved by that eminent surgeon, Dr. Emory Lanphear, that the opening of the meningeal cavity and setting up a free drainage will, in some cases, prove a boon to the medical world. At least, it is our only rational hope at the present, and is most certainly worthy of our consideration, coming as it does from leading surgeons.

Dr. Sokolow also recommends the trephining and lumbar puncture.

We will now discuss the non-tuberculous variety.

The similarity of the two affections is so closely allied that to try to make all facts and symptoms clear so as to differentiate the two thoroughly would, to my opinion, be impossible; however, the history of the two affections in many instances differs, yet in other cases it is impossible for any physician to be positive as to whether or not the case is tuberculous.

POINTS OF DIFFERENCE.

TUBERCULOUS VARIETY.

Not epidemic.
Temperature at first low.
Paralysis often missing or slight.
Tuberculous history.
Of asthenic type.
Onset gradual.

NON-TUBERCULOUS VARIETY.

Seventy-five per cent. epidemic.
Temperature quite high at first.
Paralysis almost invariably present.
History clear.
Always asthenic type.
Onset always abrupt.

I desire to lay most stress on the character of the symptoms; all may occur in both varieties, yet in the non-tuberculous variety they are always more severe and the changes are more rapid.

Prognosis.—Unfavorable. Yet the mortality should not exceed sixty per cent., while in the tuberculous variety a thorough diagnosis is equivalent to signing a "death certificate;" this is equally true in the non-tuberculous variety where the stage of coma is reached.

I do not believe that a true case of meningitis ever recovered when the stage of coma extended over a period of forty-eight hours; though even in this stage we have signs of improvement. And allow me to say here, beware of these imaginary symptoms, and build no hopes on them, for invariably collapse will come on; and when the "Cheyne-Stokes" respiration begins all hopes must be despaired of.

Treatment.—I wish first to criticise the old idea of opium and sinapisms. I do not mean to say that opium should not be used, but it should be used only to allay pain and not as a curative agent.

A blister does no good, and only adds to the suffering of the patient; it aggravates all nervous symptoms, and in no way can be used or recommended as other than empirical treatment.

The room should be kept dark, well ventilated, cool and perfectly quiet. Allow no alcoholic stimulants. Use only the most nourishing diet, especially milk and eggs. The ice-cap is to be used from the beginning constantly, or better still is the "head-coil."

From the beginning, potassium bromide. This must be used freely to take the place of opium. I would use in connection the iodides of calcium and sodium, bryonia, belladonnæ, quinine, and ergot.

Should the temperature exceed 101° F., then small doses of phenacetine, to be given in a teaspoonful of brandy.

The obstinate constipation must be overcome by means best adapted to the individual case. Enemas of magnesium sulphate, two ounces to water eight ounces, to be used as required, is one of the most efficient agents in the average case.

Lactation by Albuminuric Mothers.—Budin and Chavane (*Rev. Obstet. Internat.*, June 11, 1899) conclude, from the statistics of the Charité, the Maternité, and the Clinique Tarnier, that women who have had albuminuria in pregnancy may nevertheless nurse their infants, and that even when they have been eclamptic. Often the albuminuria has disappeared rapidly and nursing has gone on uninterruptedly. When the albuminuria persists—which is exceptional—lactation may still be continued, and the ultimate recovery of the mother is thereby hindered. When the mother has not enough milk, she may have recourse to a mixed diet. Of course, strict supervision is always needed.

SOME GALL=STONE CASES.¹

BY S. P. SCHROEDER, M. D., of Hoyleton, Illinois.

I SHALL take up a brief part of your time on the report of a few cases of hepatic colic. In reporting these I shall relate only cases out of the ordinary. To report the usual common cases would be to take up your valuable time unprofitably.

CASE I.—Mrs. H. K., German, age fifty-one, married; had borne no children; had no previous history of intestinal or hepatic colic. I was called to treat her for continuous fever of a remitting type, November 20, 1894. She had tenderness over the hepatic area. On the third day of her illness she began to suffer from severe colicky pains, which yielded to the hypodermatic injections of morphia and atropia. After the narcotizing effect of the drug had passed off the pains, less severe, returned. They were more constant and of a dull, sickening nature. From the beginning of the colic she got intensely jaundiced. The urine was loaded with bile. The feces were offensive and clay-colored. She had remitting fever varying from 100 F. in the morning to 102 in the evening. A tumor the size and outline of a goose-egg was then detected in the right side of the epigastric region, immediately under the right costal arch. She was treated with sweet oil, sodium phosphate and iodide of potash, and various other remedies recommended for cholelithiasis, but without the slightest sign of improvement. On the 6th of December, 1894, the operation of cholecystotomy was recommended, but, owing to her aversion to a surgical operation and the mistaken advice of friends, she refused. Another physician was employed December 24th, who, after a few days' treatment, concurred in my recommendation. On January 3, 1895, a homœopath was employed who promised her a cure without surgical interference. I am informed that she suffered from purpura hemorrhagica and bed-sores before she died, March 1, 1895.

CASE II.—Mrs. H. H., aged thirty-three, married; mother of seven children. I was called to treat her the evening of April 12, 1898. Being away from home I did not see her until the next day. She gave a history of previous attacks of colic and of a very severe attack the night before. Her temperature was 102° F. She was slightly jaundiced, and suffered some pain and tenderness in the hepatic region. The urine was mixed with bile. A tumor, smooth in outline and shaped like a gourd, extended from under the right costal arch into the right lumbar region; it was two inches across and three inches long. On pressing the tumor it sickened her, and the pain was referred to the heart and right hypochondriac region. In a few days she was deeply jaundiced, and all the other symptoms of complete obstruction to the flow of bile were present. In ten days after the beginning of her illness an operation was recommended. I was asked if that was the only chance for her recovery. I informed them that a certain per cent. would get well without having to submit to the ordeal of an operation; that sometimes after a longer period of obstruction the stone would pass or would ulcerate into an intestine and

¹Read before the Southern Illinois Medical Association at Chester, November 17, 1899.

then pass off with the feces, but that her chances for recovery were vastly greater by having the obstruction removed. After treating her with the usual remedies given in these cases for a week longer the fever entirely passed away, and the tumor and jaundice partially disappeared. But in a few days these symptoms reappeared. She afterward employed other physicians. However, I hear from her occasionally and see her sometimes on the street. From this I know that she has at no time been entirely free from jaundice. My opinion is that the gall-stone is lodged in the common duct, which has enlarged sufficiently to let the bile pass the stone at times, and at other times the stone closes the orifice and causes in that manner complete obstruction. It acts like a ball-valve, as described by Fenger and Osler.

CASE III.—Mrs. W. S., German, aged forty-nine, married; mother of three children; had recurrent attacks of hepatic colic, followed by slight jaundice, which disappeared in a day; had fever after each paroxysm, and during an attack a smooth tumor shaped like a gourd could be detected in the right hypochondriac and right lumbar regions; the tumor disappeared after the colic ceased; she also suffered from a train of symptoms commonly called dyspepsia. After treating her about a year with the usual remedies recommended for this condition without assuring the slightest degree of success, I advised surgical interference. She refused this, and placed herself under treatment of other physicians, both regular and irregular, who promised her a cure without resorting to the knife. Last summer, however, I was again employed by her, she being then a confirmed invalid. She now had severe attacks of hepatic colic at short intervals. She had a constant pain in the back and right hypochondriac region, and suffered from prostration and indigestion. She finally submitted to an operation. She went to the Lutheran Hospital at St. Louis, October 1, 1899, and Dr. A. C. Bernays performed cholecystotomy on her October 4th. One hundred and seventeen stones were removed. They varied in size from one-eighth to one-half inch in diameter.

The first case was evidently one where a large stone had entered the common duct, completely obstructing the flow of bile. She had to sacrifice her life for the delusion that all cases of sickness can be cured without resorting to surgery.

The second case is, in my opinion, one where the stone has lodged in the common bile duct and acts as a ball-valve. It proves how guarded a physician has to be in giving a prognosis in these cases.

The third, and last, case shows that many cases of dyspepsia are due to gall-stones; for, since the operation, her stomach symptoms have entirely disappeared. She has had no attack of colic since. The opening is still discharging bile, but undoubtedly it will close up in the near future.

When shall we recommend an operation in these cases?

1. In all cases of gall-stone colic where the jaundice lasts four weeks.
2. In all recurring attacks of hepatic colic followed by fever, and where, during an attack, the gall-cyst is enlarged.
3. In all cases of constant enlargement of the gall-bladder with or without jaundice or fever.

TREATMENT OF ERYSIPELAS.

BY DAVID S. BOOTH, M. D., of St. Louis,

Consultant to Missouri Pacific Railway Hospital; Surgeon Accident Department Pacific Mutual Life Insurance Company.

THE many remedies used in the treatment of erysipelas is evidence that no specific is yet generally recognized—not even has the discovery of its pathogenic bacteria brought about the anticipated success from the use of its specific antitoxine; hence a plan of treatment, though it may have originated empirically, which has been used with unfailing success during three generations, has much to commend it clinically over remedies which may be more scientific theoretically, but without sufficient clinical confirmation.

No new discovery is claimed of this treatment. On the contrary, the basis of the treatment, *tinct. ferri chloridi*, was used successfully for over twenty-five years by Dr. C. Hamilton Bell, of Edinburgh, in the first half of the present century; and all the drugs are more or less prescribed in this disease, but it is by the combined (“in ‘combines’ there is strength”) use of the remedies and the possession of that knowledge and confidence gained by experience which, recognizing the potency of those remedies, pushes them to their full physiological and therapeutic limit in the sight of failure as well as the early recognition and treatment of complications, that the cure, *cito tuto et jucunde*, is obtained.

This plan of treatment was used some time during the early part of this century by my grandfather, whose success in the treatment of this disease was generally recognized and commented on in the community in which he practiced; then by my father in an extensive hospital and civil practice of forty years, from whence my inheritance, and thirteen years’ experience with it in both hospital and private practice but sustains past records of its efficiency.

The treatment, modified as advancements in therapeutics and pharmacy suggested, though not materially altered and clinically scarcely indicated, is substantially as follows:

Thoroughly cleanse the *primæ viæ*, preferably with mild chloride of mercury, followed by a saline, if not contraindicated, after which quinia sulphatis and salol should be given in full doses, repeated *pro re nata*, together with *tinct. ferri chloridi* in ten to forty minim doses every two to four hours. I usually prescribe the iron in a mixture with *liq. arsenici chloridi*, *acidi phosphorici dil.* and *syr. limonis*, and often give caffeine citrate with the quinine and salol to sustain the heart and for its diuretic effect. In case of great prostration, give stimulants.

Complications should be constantly looked for and promptly met, or even anticipated, if possible.

Locally apply cloths kept saturated with a lotion of *tr. opii*, *liq. plumbi subacetatis* and *dest. ext. hamamelis* covered with oiled silk. To this lotion may be added carbolic acid if the surface is not too extensive or denuded of skin, as there is a possibility of constitutional toxic symptoms if used too freely. This will effectually relieve the local pain.

Should pus form, evacuate and cleanse cavity with hydrogen peroxide

or irrigate with bichloride, carbolic acid or permanganate of potash solution twice daily and drain thoroughly, making counter-openings, if necessary. In case of an open wound apply to it pure liq. campho-phénique at each visit.

It was part of the original treatment to paint the local disease (in dermatitis) with tinct. iodi, covering about an inch of both the healthy and diseased surfaces, with the object of preventing its spread, but this I have never done, though I have used liq. campho-phénique frequently painted thereon.

I have found this general line of treatment efficient in all local forms of erysipelatous inflammations, and the internal medication satisfactory in puerperal infections, pelvic cellulitis, diphtheria, scarlatina, or wherever there is general blood infection, having the advantage of being alike antagonistic to all pathogenic bacteria—a great advantage over antitoxine, which is at best useful against but one form of bacteria, hence ineffectual in mixed infection (which may not be determined), as well as where the identity of the pathogenic micro-organism cannot be established, at any rate not early enough to expect satisfactory results from treatment. However, antitoxines may be used in conjunction with this treatment if desired, as I have done in diphtheria the past few years in accordance with the prevalent professional opinion, but with no apparent different results.

If treatment be begun reasonably early with care as to detail, there should be no need of failure in local erysipelatous inflammations (streptococci infections), and I have no doubt but that the treatment is at least equally as good as any now in use against all bacterial infections.

Dermoid of Mesentery Easily Enucleable.—Marie, Berthier and Milian (*Bull. et Mem. de la Soc. Anat. de Paris*, March, 1899) report a clinical and pathological case of interest to the surgeon, though no operation was performed. A woman, aged fifty-six years, was admitted in March, 1898, into the Hotel Dieu for anasarca and albuminuria. These symptoms disappeared after a course in milk diet and diuretics. A few months later swelling occurred in the submaxillary lymphatics; in three weeks they became as large as an egg. Then on examining the abdomen, the attending physician discovered a tumor the size of a fetal head, movable, independent of the uterus, and apparently developed in the right ovary. No clinical history beyond what has already been given could be obtained. Malignant ovarian tumor, with infection of the glands of the neck, was suspected, but the surgeons called in consultation admitted no causal relation between the tumor and the large swelling in the neck. Operation was refused, and the patient died last September of an intercurrent affection not specified. At the necropsy the submaxillary glands were found to be tuberculous and caseated. The abdominal tumor was found between the layers of the mesentery. It was freely movable in all directions and was only adherent posteriorly, where there was a loose adhesion to the parietes. There was no ascites. It was a dermoid.

HISTORICAL SKETCH.

SCHOLASTICS AND MYSTICS.

BY JAMES MOORES BALL, M. D., of St. Louis.

[CONTINUED FROM THE JUNE ISSUE.]

CORNELIUS AGRIPPA, 1486-1535.

While Paracelsus was wandering from place to place, leading a precarious and dissolute life, Henry Cornelius Agrippa, knight, physician and magician, was placed in a similar position by reason of his quarrels with the theologians. Educated in Cologne, Agrippa followed the profession of arms, which he abandoned for the law. While on a military expedition to Catalonia he became a member of a secret society of theosophists. In 1509, while delivering lectures in the University of Dôle, in Burgundy, he aroused the enmity of the monks, who hounded him during life, and did not forget, after his death, to place a tombstone over his remains inscribed in malignant terms.

Agrippa wrote numerous books, one of which was the treatise *De Occulta Philosophia*. His book, *De Incertitudine et Vanitate Scientiarum et Artium*, is filled with satire directed against the existing state of science and pretensions of the learned men of the time. That Agrippa was greater than his age is shown by the fact that he publicly defended a woman accused of witchcraft; and by his opinion of alchemy, of which he speaks in these terms: "In fine, having lost the time and the money which you have devoted to it, you will find yourself old, ragged, hated, famished, always smelling the sulphur, soiled with sweat and charcoal, paralytic by frequent manipulation of quicksilver, and gaining nothing but a running nose; in a word, so unhappy that you will be willing to sell your body, and even your soul."

Agrippa is regarded as a follower of cabalistic medicine. His predilection for the Platonic philosophy is shown by his own words: "If you desire to obtain wisdom from the tree of life * * * reject all human doctrines, all the curiosities and discourses on the flesh and the blood, re-enter into yourselves and there you will learn everything; but if you cannot perceive them by clear and manifest intelligence, as well as the saints, it is necessary to have recourse to Moses, to the prophets, to Solomon, to the evangelists, to the apostles—for all the secrets of God and nature, the reason and basis of all laws and customs, the knowledge of all things present, past and future, are contained in the holy writings of the Bible."

Long before the time of Agrippa learned men attempted to apply Plato's ideas to physics. They held that to acquire scientific truths mental reflection is a necessity; and they admitted a relationship between the celestial bodies and the earth's inhabitants. They conceived many of the phenomena of this world to be due to astral influences. From these beliefs to the doctrines of the Occultists and Cabalists is but a step.

I have not the time or inclination to delve into the doctrines of the Cabalists. Perhaps it will suffice to state that the Cabal, or Kabbalah, is of Hebrew origin; that it attributed hidden meanings to every letter, word and accent of Scripture; that the cabalistic knowledge was esoteric; and



ROBERT FLUDD.

that future events can be foretold. The cabalistic philosophy was divided into theosophy, magic, astrology and alchemy. The cabalistic doctrines were potent from the fact that they drew support from many sources. The desire to convert the baser metals into gold, the search for an elixir of life,

the teachings of visionaries and fanatics, the errors of science, the prejudices of superstition, and the belief in a personal devil, all combined to propagate and perpetuate the follies of the Kabbalah. Surely this was a period of greatest darkness, of most appalling ignorance, which preceded the dawning of a glorious day.

Cabalism had an undoubted influence upon the medicine of the middle ages. The belief that evil spirits cause disease long held sway. The belief in witches obtained a credence which was almost universal. The wholesale burning of witches began in Germany in 1484, owing to a bull issued by Pope Innocent VIII., and continued until late in the eighteenth century; and in enlightened America the most terrible tortures were inflicted upon alleged witches as late as 1692.

JEROME CARDAN, 1501-1576.

Another restless spirit and follower of cabalistic medicine was Jerome Cardan, "the wisest fool and the most foolish wise man" of his time. This illegitimate son of a learned mathematician of Milan was born at Pavia, where his mother had traveled to become rid of her offspring. The child took the plague at an early age, and it is said that "there appeared at the same time five carbuncles on its face: one on the nose and four others arranged around it in the form of a cross." Such was the inauspicious beginning of a powerful intellect.

Cardan was equally famous as a mathematician, physician and astrologer. In his twenty-fifth year he received a medical degree from Padua. This was not recognized by the Milanese, among whom he settled, and he was "denied the right of practicing legitimately, because he had not been legitimately born." However, he was appointed a lecturer on arithmetic, geometry and astronomy, and was so poor that some of his time was spent in prison for debt. Although he stood high in mathematics, his medical knowledge was little in advance of that possessed by Hippocrates and Galen. In 1534 he was offered a professorship in the medical school at Padua, but declined it because of uncertainty of being paid. Five years later he was admitted as a member of the College of Physicians of Milan, and later delivered medical lectures in that city. Vesalius secured for him an offer from the King of Denmark, which was refused on account of the coldness of the climate. In 1552 Cardan was summoned to Scotland to attend the Archbishop of St. Andrew's; his success in this case was so marked that he was called to London by Edward VI., who asked him to locate in England. Cardan, however, predicted the early death of the king, and did not think it wise to remain. Returning to Italy, he settled in Bologna, where he taught medicine until 1571, when he was called to Rome and was given a pension by the Pope. Cardan died in this city in 1571. It is said that he foretold the date of his death, and starved himself so that the prediction might be fulfilled.

Cardan claimed to possess special gifts by which he could throw himself into a trance, see visions, and foretell the future by dreams, or by the appearance of his nails. All his life he was half mad; but he believed in himself and addressed not the rabble but the learned. Properly speaking, he was not an impostor, yet he resorted to questionable methods to gain notoriety. Thus, after his visit to Scotland, he wore in Rome the garb of

a Scotchman, and "was dressed as no other mortal." When called in consultation in the case of the son of a senator, he pronounced the disease *Opisthotonos*, a word unknown to the other medical men. When asked how to cure it, he replied with quotations from Hippocrates and Galen; and having ousted the other physicians, proceeded to cure the patient. Considering the period in which he lived, it is not surprising that he held many erroneous opinions. He had this to say of the weapon salve: "It is reported that if a weapon with which a man has been wounded is exposed to the air the patient suffers severe pain; and, on the other hand, that there is an ointment which, when applied to the weapon, will relieve the patient as much as if an effectual remedy had been placed on the wound." His first book was entitled *De Malo Medendi Usu*, and exposed the fallacies of the faculty. It gave the profession great offense and brought the writer into prominence and practice.

THE ROSICRUCIANS.

The unrest and gullibility of the enlightened nations of the seventeenth century, and the liking for the mystical, cabalistic and theosophical are evidenced by the rise of the Rosicrucians. The origin of the Society of the Rosy-Cross is attributed to a learned joker, Johann Valentin Andreae (1586-1654), whose book, *Allgemeine und General-Reformation der ganzen Welt beneben der Farna Fraternitas des loblichen Ordens des Rosenkreuzes*, appeared anonymously at Cassel in 1614. This states that Christian Rosenkreuz, a German, had founded a society in the fourteenth century, after having learned the sublime wisdom of the Orient. The author was said to have imparted his secrets to three disciples, who formulated these laws for the government of the society:

1. The members should practice medicine and treat the sick gratuitously;
2. They should wear the dress of the country in which they should reside;
3. They should convene on the anniversary of their founder's birthday, at a secret place called the Chapel of the Holy Spirit;
4. They should initiate worthy laymen into their mysteries in order to perpetuate the society;
5. The watchword should be "Rosenkreuz;"
6. The existence of the society should be concealed for one hundred years;

The society is said to have been Christian but anti-Catholic. Its members were promised extravagant things—celestial knowledge, great wealth, the elixir of life, and the philosopher's stone. After the public had been thoroughly aroused, Andreae explained that the book was a fabrication and a joke. His statement ought to have been the end of the Rosicrucians, but it was not so to be. The idea of a fraternity of the Rosy-Cross struck a popular cord, and the Rosicrucians soon grew to be a power. A vast literature of a controversial character sprang up; and while some condemned the Rosicrucians as heretics in theology and medicine, others, like Fludd, defended the order. Among the most celebrated of the Rosicrucians were Valentine Wiegel, Jacob Boehm, Oswald Crollius, and Robert Fludd.

ROBERT FLUDD, 1574-1637.

What Paracelsus was to the sixteenth century, Robert Fludd, an English physician and mystical philosopher, attempted to become in the seventeenth. He called himself Robertus De Fluctibus. Born at Milgate, in Kent, he entered Oxford, and afterward spent six years in traveling, in order to gain knowledge of the curious and mysterious. While on the continent he became familiar with the writings of Paracelsus, upon which basis he endeavored to form a system of philosophy founded on the identity of spiritual and physical truth. All the curious dreams of ancient and modern mystics were eagerly seized upon by Fludd, and from these he compounded a new mass of absurdity. "In hopes of improving the medical and chemical arts," says Enfield,¹ "he devised a new system of physics, loaded with wonderful hypotheses and mystical fictions. He supposed two universal principles: the northern or condensing power, and the southern or rarefying power. Over these he placed innumerable intelligences and geniuses, and called together whole troops of spirits from the four winds, to whom he committed the charge of diseases. He applied his thermometer to discover the harmony between the macrocosm and the microcosm, or the world of nature and of man; he introduced many marvelous fictions into natural philosophy and medicine."

[TO BE CONCLUDED.]

Insomnia in Pulmonary Phthisis.—Dr. E. S. Yonge, of Manchester (*Scalpel*, May, 1899) states that trional appears to be a peculiarly suitable hypnotic for cases of phthisis, inasmuch as it exerts a specific inhibitory effect upon the night-sweats of that disease. Although not capable in the severer cases of entirely checking the sweats, there was an appreciable diminution of the secretion, and in milder instances this symptom entirely disappeared. For this purpose trional should be administered in doses from 8 to 16 grains in a warm fluid, one-half hour before retiring. When physical pains were responsible for the insomnia, the addition of small quantities of heroin (1-12 grain) induced sleep within a short period. No distinctive unpleasant after-effects were noted, except that in cases where a tendency to constipation existed it appeared to become aggravated during the administration of trional. The author advises that during its continued employment some natural alkaline or mineral water should be given daily, and its use should occasionally be suspended for one or two days. In other conditions of sleeplessness the remedy also proved a hypnotic of real value on account of its prompt, certain and natural action, combined with an apparent innocuousness, an absence of cumulative or after-effects, or of any tendency to produce habituation.

¹ Enfield: The History of Philosophy, p. 570, London, 1837.

LONDON CORRESPONDENCE.

Ancient Plague Precautions in Scotland.—To show that there is considerable point in the statement that, so far as the doctors are concerned, the person who catches the plague may look upon himself as a total loss, and that barring the so-called discovery of the plague bacillus, the squirt apparatus, and the serum treatment, the sanitarians of to-day know little more about the plague than they did centuries ago. It is certain that rulers and statesmen still rely on the efficacy of measures which have proved themselves useless in the Middle Ages. The belief in the efficacy of quarantine has been rendered obsolete by the researches of modern epidemiologists, and measures of zeal and indiscretion which look so well when confronted with popular ignorance, have come to be regarded in the light of "paper plausibilities," having no real scientific value as measures of popular safety.

The disturbances at Oporto on the Spanish frontier, on the Russo-Roumanian frontier and elsewhere remind us forcibly of the frequency with which epidemics overspread the united kingdom from the earliest periods described by Bede down to the great plague of 1666, so lucidly recounted by Defoe, the famous author of "Robinson Crusoe."

Scotland had no exemption from the plagues which visited England. Twice the bubonic plague or black death, played havoc in the land—in 664 and again in 1348—just as the country was recovering from the disastrous wars of Edward I.; but before that period the *Melrose Chronicle* (1173) described the influenza epidemic which then visited the country as "a bad kind of cough, unheard of before, which affected everybody far and wide, from which pest many died." But as records grow more plentiful, the accounts of plague visitations become more graphic; and one reads of the plague in Scotland in 1495, when Inchkeith, Inchcolm, and Inchgarvie, islands in the firth of forth, were used as quarantine and isolation stations, a mode of treatment evidently brought from Venice. It became fashionable to treat epidemic diseases by this method.

The Edinburgh laws were almost as strict. The plague was so violent in that town in 1545-46, that fear drove the judges of the Court of Session from Edinburgh to Linlithgow; and in 1564 the Scotch Privy Council ordered quarantine for foreign vessels. Cargoes of lint brought from abroad were landed on Inchcolm, and ordered to be exposed to the wind every other day by appointed "cleaners" for an indefinite period, according to the exigencies of the case.

The Scottish Privy Council had their eye also on tramps and vagrants as a means of disseminating infectious diseases, and in 1574 the council met at Dalkeith, and issued an order designed to check the spread of the plague landwards through the departure of "seik and fowle" (sick and foul), persons infected with the disease, who were ordered to "close thaim selfs in." There were no medical officers of health in those days at the various ports; but the duty of vigilant inspection was entrusted to the "shirra" and his officers. The plan of isolation was wide-spread, and was remorselessly carried out, apparently with but little effect on the

periodic occurrence of the same disorder. This is precisely what is happening every day amid the excited sanitary boards, who are endeavoring to combat the spread of disease by closing the gates of the Portuguese cities, and brandishing their swords and shouldering their guns with more zeal than discretion. The plague demon, however, is "a ruthless trampler," and will easily elude all the armaments of Spanish warfare. In India the skilled workers are engaged on several points of hygienic treatment, which still, however, lack definite conclusion. In the meanwhile it is for sensible science to expose the hollowness and charlatanry of such methods, and to adopt those which are based upon the calmer conclusions of scientific observation and experiment.

Natural Blood Stimulants.—At a meeting of the Society for the Study or Inebriety, Dr. Harry Campbell read a paper on "The Craving for Stimulants," in the course of which he pointed out: "Mankind all the world over show a liking for stimulants, from Noah, 'who planted a vineyard, drank of the wine and was drunk,' down to the latest case of 'drunk and disorderly' brought up at Bow street to-day. Not only is there a desire for alcohol, but for such stimulating drinks as tea and coffee, the consumption of which in this country has greatly increased during recent years. The wide-spread desire for things stimulating I believe to be the manifestation of a very widely operating physiological principle, namely: *that stimulant substances are normally present in the animal organism and exercise a beneficial influence on function.* Under the head of stimulants I include, for convenience, all substances, even though they do not intoxicate, which tend to brace up the nervous system. The blood contains a number of substances of this description, which we may term *drug-substances*—substances, namely, which act much as drugs do: influencing function without contributing energy. Many kinds of food contain them in abundance. Beef tea is essentially an infusion of such substances, and is known to be highly stimulating; and I believe that men and animals select their food not only for the nutrient matter, but also for the stimulants, which it contains. Among vegetable foods, maize and beans are, perhaps, the most richly supplied with stimulants—horses fed on them, especially, if insufficiently exercised, become simply ungovernable. Besides the drug-substances ingested with the food, others are manufactured in the body, both in the digestive tract and in the tissues. We have been too much in the habit of looking upon these as mere deleterious matters, which the organism is at great pains to neutralize or eliminate. Many of these produced during the digestion are, indeed, deadly poisons when absorbed in large quantities into the blood; but some substances which in large doses are poisonous may, in smaller quantities, be highly beneficial, as in the case of strychnine and morphine; and I believe that some of the digestive toxines may exercise a beneficial drug-influence on function—that the body, in fact, possesses a veritable drug manufactory. This, perhaps, partly explains the instinct among animals to search out drug-containing herbs. Among the drug-substances thus manufactured in the body some are stimulant in their action. These act upon the nervous system, inducing the feeling of well-being, just as the depressant toxines act upon it, causing the feeling of ill-being—so that whether we

feel well or ill depends largely upon the amount of stimulants or depressants in the blood. If the blood were wholly devoid of such substances, or if neither class predominated, there would simply be a feeling of apathy.

"The view that the blood normally contains stimulants, and that these stimulants exercise a favoring influence on function and conduce to the feeling of well-being, explains the wide-spread liking in man and beast for things stimulating. When there is perfect health, and when the blood is well provided with its proper stimulants, and not surcharged with depressants, there is no craving for extraneous stimulants, as alcohol and tea and coffee. But when it is defective in the one or surcharged with the other, then is felt the desire for the glass of wine or the cup of tea. In order to obviate this we should seek to keep the body at the highest level of health, for, under these circumstances, the blood will be well supplied with physiological stimulants. When a man ceases to rely on these and begins to employ artificial aids, he is playing with double-edged tools."

W. L. BROWN, London, England.

Ethyl Bromide as an Anæsthetic.—In the *Maryland Medical Journal* of September 2d, Dr. J. E. Kempter, of St. Thomas, Pennsylvania, recommends ethyl bromide as a general anæsthetic in short operations. Its advantage is its rapid action; and it is particularly well adapted for children. It is dangerous when used like chloroform—that is, with an admixture of atmospheric air, or when the administration is protracted. Dr. Kempter gives it in the following way, which he learned from Dr. Chisholm, of Baltimore. A crash towel is folded into the shape of an "air-tight" cone and rendered impervious by a layer of paper, the base of the cone being sufficiently wide to cover both nose and mouth. The amount of ethyl bromide varies from one to two and a half drachms for children, and from two to three drachms for adults. The full dose is poured into the inhaler, which is immediately held down firmly over the patient's nose and mouth and not removed until full anæsthesia is induced and all struggling ceases. The patient sometimes struggles violently, and to the uninitiated appears to be in danger of asphyxia, but the cone must not be removed, for in no other way can rapid and safe anæsthesia be obtained by ethyl bromide. Generally speaking, one minute will suffice to induce deep narcosis. The patient awakes suddenly, as if from a natural sleep. Dr. Kempter says that under no circumstances should the inhaler be removed for the purpose of prolonging the anæsthesia. Ethyl bromide was employed as an anæsthetic by Dr. Nunneley, of Leeds, in 1865; Dr. Levis, of Philadelphia, made extensive trials of it in 1879, and was one of the chief promoters of its use in America.

NEW YORK LETTER.

Leprosy Not Infectious.—Dr. L. Duncan Bulkley, who is giving a series of lectures at the New York Skin and Cancer Hospital, showed a case of elephantiasis græcorum, or true leprosy. The man had been a sailor up to twelve years ago, when he entered the Sailor's Snug Harbor. Upon the trunk there were to be found erythematous blotches, becoming white on pressure; the blotches were of various sizes, and all tending to clear in the center. The patient was doing well under the use of chælmooogra oil; it was first given in ten or fifteen-drop doses, and was rapidly pushed up to thirty or forty drops three times a day. A great many cases are shown at the Dermatological Society, thirty or forty—yet none can be shown to have arisen in men who have *not* been in countries where leprosy abounds. Dr. Bulkley reported cases that had been treated in the hospitals, where no precautions had been taken against infection, yet he had never seen or heard of such a case arising from infection in this country.

New York State Association of Railway Surgeons met at the Academy of Medicine, November 16th, and was a very interesting meeting. The special topic for discussion was the "Physical Fitness of Railway Employees." R. R. Richards, Esq., of Chicago, General Claim Agent Chicago and Northwestern R. R., viewed it from the operating department; Dr. G. P. Conn, of Concord, New Hampshire, Chief Surgeon Boston and Montreal R. R., viewed it from the surgical department; Dr. Joseph White, of Richmond, Virginia, Ophthalmic Surgeon C. & O. R. R., viewed it from the standpoint of the oculist and aurist; L. L. Gilbert, Esq., of Pittsburg, Pennsylvania, spoke of the medico-legal features of physical fitness. Clark Bell, Esq., of New York; Dr. J. F. Valentine, of Richmond Hill, L. I., Chief Surgeon L. I. R. R., and George Marsden, Claim Agent N. Y. O. & W. R. R., and others discussed it.

Officers elected for the ensuing year were: President, Dr. John L. Eddy, of Olean; Vice-Presidents, Drs. H. P. Jack, of Canisteo and Townsend, of New York; Secretary, Dr. C. B. Herrick, of Troy; Treasurer, Dr. Theo. D. Mills, of Middletown.

Railway Suit with Damages.—L. L. Gilbert, Esq., of Pittsburg, Pennsylvania, at a dinner given to the guests of the New York State Association of Railroad Surgeons, related to your correspondent an interesting case of a patient who had typhoid fever, while *en route* to Philadelphia, applied for a sleeper at Pittsburg; it was refused and the patient got off at Pittsburg, resuming his trip to Philadelphia the next day. Suit was entered against the Pennsylvania Company for \$20,000 damages. The jury allowed him \$500.00 damages.

A Case of Tetanus Treated with Antitoxin with Recovery.—Dr. Alexander B. Johnson showed a case of tetanus treated by antitoxin by Dr. McBurney in the Sym's Operating Building, Roosevelt Hospital. Before the use of antitoxin recovery in those cases occurring so early after inocula-

tion was almost absolutely unknown. Injections into the brain is a treatment not fully appreciated. The poison is a true nerve poison. The injection was made through the skull, and made very slowly, going two and a half inches into the cerebral substance. Injections into the lateral ventricles has been proposed and tried by Dr. Robert Abbe, of this city, with success. The ventricle was marked out by a neurologist—Dr. Dana—then a small hole was trephined and the needle introduced, the fluid being injected slowly. In Dr. McBurney's case the temperature began to steadily rise until it reached 102 degrees; this was while he was receiving ten c.c. every six hours; but so soon as the injections were given every four hours the temperature immediately dropped to 99 degrees, and remained there several days. When the time of injection was again lengthened to six hours, it immediately rose to 102.5° and 103°. It soon returned to normal, and has remained there ever since. He was at a loss to explain the temperature chart. The patient was entirely cured.

Women Drunkards Increase.—So says Dr. Margaret A. Stewart at the recent meeting of the Women's Christian Temperance Union. She said: "It is a sad but undeniable fact that in the last few years the record of drunkenness among women has grown to such a degree as to be appalling, and there is no telling where it will end unless a remedy is found, and that quickly. In her home, and attending to her wifely duties, woman was free from the temptations which beset those who have gone out into the world with a purpose to accomplish. With the changed conditions of life, women have found that they must alter their former ways to conform to the new surroundings, and this, I fear, with the wider freedom which they have acquired, is largely to blame for resulting evils."

Tonsorial Hygiene, and State Control of Barber Shop Sanitation.—That was the title of a paper read before the Medical Society of the State of New York, last January, by Dr. A. Walter Suiter, of Herkimer. Missouri is all right in putting the new law into effect last week regarding this subject, and is to be congratulated in being the first to introduce this reform. Dr. Suiter is very enthusiastic on barber legislation; Missouri's act will greatly encourage him in his efforts to have some similar law introduced in this State. It is certainly much needed.

New York State Sanitarium for Consumptives.—The committee on sanitation from the State Board of Charities held a meeting in Rochester, December 2d, to get suggestions for a bill for the establishment of a sanitarium in the Adirondacks for the treatment of consumptives. Consumption should be stamped out just the same as the plague, or any other dreadful disease which is carrying away vast portions of our population. It takes away about one-seventh of our numbers, and still no radical measures are taken to get rid of it. Dr. Lee K. Frankel, manager of the United Hebrew Charities says that the spread of tuberculosis among the Jews of the tenements has become so rapid that the Charities has found itself utterly unable to cope with the disease. All attempts made so far to alleviate the sufferings of these people have proved practically futile, principally because of the lack of proper sanitariums to send them to. If

proper legislation were enacted directed towards compulsory isolation of the infected by State agents, it is the belief of the medical world that consumption would in time be stamped out. A committee was appointed to visit Albany this winter for the purpose of urging the legislature to provide for a state home to be erected in the Adirondacks.

Nagging.—A young woman recently murdered her paralytic aunt because she said "she nagged the life out of me, quarreling, quarreling from morning to night. For years every mouthful of food she ate I fed her. I had to undress and put her to bed, and all I received was abuse. It drove me crazy. Goaded to desperation, and not realizing what I did, I killed her." The nagging spirit which we so often see in households does more harm in destroying domestic comfort and happiness than any other evil. The husband nagging the wife, the wife the husband, and both the children, shuts out sunshine and turns what should be a happy home into a hell.

The danger to the public of inviting reporters of the daily press to attend medical meetings was lately shown in this city, when a paper on "Alcohol" was to be presented. The paper itself was all right enough to be read to a body of medical men, but it was quite another thing when it was spread broadcast over the country, particularly as it was in favor of using alcoholic stimulants in many cases. An advertisement of a certain brand of whisky has recently appeared in which this doctor is "quoted."

Surgical Treatment of Fibromyomata of the Uterus.—Doyen, of Paris (*Courier of Medicine*, October, 1899), presented a paper at the Third International Congress of Gynecology, and formulated the following conclusions:

"1. The surgical treatment of fibromyomata should consist in their removal.

"2. The bilateral removal of the adnexa by laparotomy has been generally abandoned and is only indicated as a complement of ovariectomy when uterine fibromata exist which do not cause grave symptoms.

"3. The removal of fibromyomata should be made through the vagina when the operation is easily made by that route.

"4. Laparotomy is preferable when vaginal hysterectomy appears to present real difficulties.

"5. Myomectomy and vaginal hysterectomy should be made by anterior simple hemisection of the uterus or in a V-shape.

"6. Large interstitial tumors are scooped out by a cutting tube and removed by lozenge-shaped morcellation.

"7. The removal of large pedunculated fibromata by laparotomy presents special indications. Abdominal myomectomy is only rarely indicated.

"8. The operation of choice for large and multiple interstitial fibromata is complete abdominal hysterectomy by subperitoneal decortication of the lower segment of the uterus, with closure of the pelvic peritoneum."



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MEDICAL NOTES.

The Treatment of Syphilis with the Serum of Syphilitic Patients.—(A. A. Vyeviorski, *Russian Archiv. of Path., Clin. Med. and Bacter.*, vol. vii., pp. 44-45, 1899, and *Brit. Jour. of Dermatology*, August, 1899.)

The author gives a short account of his investigations and clinical experience in treating syphilis with serum of syphilitic patients. By bleeding patients with syphilitic infection in order to obtain their blood serum, he thinks that thereby the patients are benefited by reason of the fact that a kind of exercise of the blood-producing organs is excited. He takes 1.5 grains of blood for each pound of weight.

Serum obtained from patients after the disappearance of the secondary manifestations of syphilis, and serum of patients with gummata administered to patients with early manifestations of syphilis, increases the percentage of hemaglobin, the number of red blood cells and the metamorphosis of white blood corpuscles, which is manifested in the diminution of young and matured corpuscles and the increase of that of corpuscles past maturity. These changes take place in the blood before any changes in the external manifestations of syphilis.

Only the serum of syphilitics produces such changes in the blood of other syphilitics, no effects being produced in the blood of healthy individuals by the administration of syphilitic serum. This action is entirely independent of treatment. Untreated syphilitic patients' serum has the same power.

The action of the serum is stronger when administered in the stage when the general manifestations of syphilis appear, and milder when used in the second incubation period, no matter whether serum of patients with secondary or gummatus manifestations, treated or untreated, is used. He gives the preference to serum when compared with mercury in their action upon the blood.

In eight cases out of eighteen treated, the manifestations entirely disappeared from the use of serum alone. He cites a case where the administration of serum three weeks after the appearance of a chancre and adenitis, accompanied by a diminution in the amount of hemaglobin and an increase of urea, prevented the outbreak of syphilitic manifestations—three years after observation—although in three other cases, where the administration of serum took place at a later period, he could not prevent the appearance of syphilitic manifestations. (*Treatment*, November 23, 1899.)

The above report is highly interesting. It seems that there is really some efficacy in the treatment of syphilitic disease by means of the blood serum of other syphilitics. This result is quite logical and is in perfect line with the opinions now held as to the etiology of syphilis, *i. e.*, that it is a micro-organic disease. If such results can be obtained by other workers, then there will be no urgent necessity for the finding of the exact cause of the disease. In short, we will have an antitoxin prepared for us by the human organism without recourse to the aid of up-to-date bacteriologic methods for the preparation of antitoxins. We must have more work of this kind done, and let us hope that the results of other investigators will be in accord with the one just quoted.

On the Recognition of Enlargements of the Left Auricle by Percussion.—

William Ewart (*Brit. Med. Jour.*, October 28, 1899) says that in health the normal postcordial dullness contains a smaller, more accentuated dullness, which is that yielded by the left auricle itself. The "left auricle dullness" is a small semilunar area, convex upwards, and including the eighth and ninth dorsal spines. These spines, particularly the ninth, are relatively dull, or, at any rate, less resonant on percussion than the adjoining spines, and we rely on this quasi-dullness of the ninth spine as the landmark which serves to localize the left auricle. This auricular dullness is slightly enlarged, particularly upwards, in subjects suffering from mitral stenosis. Aneurism may also affect this dullness in a similar way.

Enlargements of the infratracheal glands may be made out by noting the modification in the dullness around the fifth dorsal spine.

The Defense of the Cardiac Orifices Other Than Valvular.—D. W. Samways (*Brit. Med. Jour.*, October 28, 1899) attempts to show how the cardiac orifices are defended by means other than valvular. He contends that the auricular contraction is going on even while the ventricular systole is beginning, and that, therefore, the ariculo-ventricular valves do not close during the very beginning of the ventricular systole. It can, therefore, be seen that the absence of murmurs of a regurgitant nature in cases of moderate mitral stenosis can be easily explained, if this proposition be true. He concludes by saying that:

1. The absence of murmurs in stenosis of the mitral orifice is due to the fact that the auriculo-ventricular valves are still open during the systole of the ventricle, but that the blood cannot regurgitate because of the intra-auricular pressure.

2. Regurgitation and a systolic murmur may appear as the stenosis advances, because of the mechanical dilatation of the auricle.

3. The auricular systolic murmur of mitral stenosis may reasonably be supposed to be presystolic or systolic, since the auricular systole, like the murmur, runs up to and into the ventricular systole.

4. Hypertrophy of the auricle, so common in mitral stenosis, would aid or exaggerate the above results.

Quinine Sulphate in Exophthalmic Goiter.—Paulesco, in collaboration with Raynir, has made certain studies in regard to the pathogenesis of exophthalmic goiter. He believes that the principal trouble in this affection is the vaso-dilatation which affects the blood vessels of the neck and head. As the result of this distention we have tremor, the goitrous swelling and active congestion of the thyroid body which produces in its turn a hypersecretion of the gland, and which has a distinct physiologic action. Paulesco claims that he has employed the sulphate of quinine with remarkable results, arising from its influence in producing vaso-constriction of the vessels of the head and neck. He gives fifteen grains of it at night after supper, and again a quarter of an hour later. He states that this treatment decreases the tachycardia, diminishes the exophthalmus and the size of the goitrous swelling.—*The Revue de Therap. Med. Chir.*

SURGICAL SUGGESTIONS.

Sutures.—The question of suture and ligature material is an important one, and much time has been occupied in seeking the ideal material, Marcy, claiming that in the kangaroo tail we have the ideal material, while other surgeons of equal renown maintain that catgut is the best. I believe that in pure silk all the virtues of a good ligature can be found, viz., strength, durability, and sterilization—and no irritating qualities; can be quickly sterilized; any surgeon who cannot sterilize silk ligature, would certainly infect catgut at time of operation.—*Cordier.*

Substitute for Velpeau Bandage.—In the spring of last year I had a case of luxation of the humerus and fracture of the coracoid process. The patient had very sloping shoulders. I found that the Velpeau bandage would not stay on easily. I finally got what I wanted after several trials. I did not report it at that time because I considered that it would be better to try on some other cases first. This spring I had a small girl with fracture of the clavicle at the acromial end, also a very obese woman with dislocation of the humerus. In both cases the bandage was successful.

My plan is to take a piece of unbleached domestic cotton, although a flannel bandage would fit more snugly, about a half a yard wide and a yard and a half long, the length depending upon the circumference of the patient. I then tear it into two tails at each end, one at each end being slightly narrower than the width of the patient's shoulder. I then apply it in this manner: I have the patient place the hand in the usual position with the hand on the opposite shoulder, and then put the narrower tail underneath the patient's arm. Bring one end of this around the back without turning it, so that it lies flat all the way, and the other end is brought up over the outer aspect of the arm, and here we pin it on the shoulder. Now this other tail which has hung down heretofore we turn up over the arm, and pass it around the patient's body. Now we can tighten it up as we desire. We can exert as much traction as we like and draw the elbow as close as we want to the body. We now have a bandage, as you see, in which the strains come in the same direction as in the ordinary Velpeau bandage. You can put in more pins if you like, making a bandage more secure than the Velpeau. Here is the bandage now, completely applied. It has, to my mind, several advantages over the Velpeau—firstly, if we are called out in an emergency we can always find material such as this in the patient's house. In the second place, and to my mind the greatest advantage which I have found, there is the frequent necessity of administering an anæsthetic. To apply the Velpeau we have to bring the patient up to a sitting posture. This can be applied with the patient on the back as well as sitting. Then on obese patients this bandage will not slip. We can examine a shoulder or an elbow without disturbing the rest and without raising the patient from the supine position.

One thing I forget to mention is that it is rather an advantage to tear the broad tail shorter than the narrow one at one end. Then we can have all the pins in front so that we can get at them without turning the patient over.

J. MORA MOSS, M. D.

San Francisco, Cal.



A Practical Treatise on Medical Diagnosis. By JOHN H. MUSSER, M. D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia and Presbyterian Hospitals; Consulting Physician to the Woman's Hospital of Philadelphia, and to the West Philadelphia Hospital for Women; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicians, etc. Third Edition, Revised and Enlarged. Illustrated with 253 Wood-cuts and 48 Colored Plates. Lea Brothers & Co., Philadelphia and New York.

This admirable book hardly needs further commendatory mention from the reviewer, for it has been so widely read by the profession that its merits are well recognized already. This third edition is an improvement on the previous editions only in that it has been arranged in accordance with the recent advancements in methods of diagnosis. It is as complete as it is possible to make a book of this kind. No pains have been spared to make it one of the best treatises in the English language on the subject of medical diagnosis. No physician's library can be said to be complete if this work does not occupy a prominent place on the shelves, and no physician's "medical mind" can be said to be well trained if that physician has not read this book from cover to cover. If the student can be trained to think along the lines laid down in this book, then can we truly say that he will be in touch with the proper spirit of the times in medicine, and that he has the proper conception of the medical work that will confront him in the future.

Bacteriology in Medicine and Surgery.—A Practical Manual for Physicians, Health Officers, and Students. By WM. HALLOCK PARK, M. D., Associate Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Assistant Director of the Research Bacteriological Laboratories of the Department of Health, City of New York. Assisted by A. R. GUERARD, M. D., Assistant Bacteriologist, Department of Health, City of New York. Illustrated with 87 Engravings and two Colored Plates. Lea Brothers & Co., New York and Philadelphia.

This book is a very good manual of bacteriology in that it shows its relationship to medicine and surgery. It has come to pass now that the no-longer infant science of bacteriology is working a potent influence for the better among the thinking men of the profession. There was once a time when this science was considered a fad by members of the profession, and the tremendous interests in medicine and surgery which are now found crystallized in bacteriological work were overlooked by most men. Books such as this one serve to point out the immense importance of a knowledge of bacteriology. At the same time it can be made to serve as a very good text-book for the student in his elementary studies of this branch.

NEW REMEDIES.

Citrophen.—Dr. J. W. Frieser, in the *Wiener Medicinische Presse*, No. 45, Vienna, November 5, 1899, writes of "The Therapeutic Value of Citrophen in the Treatment of Certain Nervous Diseases."

Dr. Frieser has obtained very good results in the treatment of certain nervous derangements by the use of citrophen. His group of cases comprises those of general nervous excitement, typical neurasthenia, hysteria, chorea minor, paralysis agitans, migraine, facial neuralgia, and morphinism. In all these cases he observed marked improvement after the administration of this drug. What seems to recommend it above all, making it superior to all other similar preparations, is its harmlessness so far as the induction of an habituation to it is concerned, a point which cannot be made with any of the drugs which are used for affections of the character described above. He says that its good sedative anti-neuralgic as well as mild hypnotic action has proved itself beyond question, and its favorable influence in cases of morphinism is more especially to be noted, as up to the present time no other remedy is known to give equal results.

Quinoliv.—This remedy, to which the attention of our readers was directed in the July, 1899, issue, consists of eighty per cent. quinine sulphate combined with a disguising agent of vegetable origin, consisting largely of olive oil. The solubility and therapeutic activity of the quinine is not affected by the disguising agents. Quinoliv occurs in the form of a tasteless, granular powder, which, because of its oleaginous character is largely passed into the small intestine and there emulsified and absorbed.

Samples of quinoliv with literature pertaining to the same can be received from Davenport Drug Co., Americus, Georgia.

On the Application of Thiol in Diseases of Women.—(From the Polyclinic of Prof. Dr. Kossmann, Berlin. By George Zander, M. D.)

Thiol is a remedy which was first administered only in affections of the skin, but now it has come to occupy quite a prominent and valuable place in the treatment of diseases of women. It has superseded ichthyol with many—first, because it has no objectionable odor, as ichthyol has; secondly, because the stains made by thiol on linen are easily removed by the use of lukewarm water; thirdly, because it is analgesic and removes inflammatory irritation. The writer reports a number of cases where decided improvement followed the administration of this drug; the affections in which it was used with success were salpingo-oophoritis, cervical endometritis, adherent peri-oophoro-salpingitis, etc.

Antithermoline.—Antithermoline is a colorless, antiseptic, surgical dressing in plastic form ready for use. It is virtually a portable poultice composed of ammonium iodide, boracic acid, eucalyptus, menthol, thymol, and glycerine, combined with a carefully prepared inorganic base of demonstrated remedial value. It contains no poisonous ingredients, is

bland and non-irritating, hence may be applied to raw surfaces without discomfort. Literature pertaining to this remedy can be secured from G. W. Carnrick & Co., 424 W. Broadway, New York.

Bismuth subnitrate, like calomel, justly forms the mainstay in the treatment of all forms of gastro-intestinal irritation and all their concomitants. Unlike the latter, however, the sublimate is open to very serious objections, not the least of which is the large dosage required and the unpalatable and unsightly "shake mixture." These disagreeable features are entirely absent when soluble bismuth is used, bismutum phosphoricum solubile, known also as bisol. The salt has a slightly alkaline taste and dissolves freely in water, making a perfectly clear solution. It thus permits the use of bismuth internally in a form pleasant alike to the eye and to the palate. The very small dosage, too, is a signal advantage, three to seven and one-half grains being ordinarily sufficient. It is practically harmless also, as even when used hypodermatically in animals no injurious influence was noted. The indications for its use are those of the bismuth salts generally; and indeed at the Children's Hospital at Berlin it was found unsurpassed in the treatment of summer diarrhœa, that of typhoid, and even that of phthisis. In gastralgia and in vomiting from any source it is invaluable. Its marked inhibitory influence on the growth of bacteria makes it an efficient intestinal antiseptic. It is precipitated by acids and by alkalies.

Familiar Clinical Pictures.—Among the most prevalent cases that physicians are called upon to treat at this season of the year are pneumonia, typhoid fever, and la grippe. There are, in each instance, well-defined, characteristic symptoms of organic disease resulting in disturbances of practically all the functions of the body. In consequence of this morbid process the vital force becomes diminished through the excessive febrile condition, thus checking nature's normal work. With advance in knowledge in the use of antipyretics, clinical observation based on practical experience at the bedside, reveals the fact that practitioners invariably obtain the most gratifying results from the use of liquid antipyretic (Tilden's) in the febrile conditions of the above named diseases; particularly is this applicable in stubborn complications accompanying la grippe. Liquid antipyretic (Tilden's) antagonizes both febrile and cardiac depression by building up the natural functions of the body, giving nature the needed opportunity of resuming its normal work, for in so doing it is regarded as one of the most valuable antipyretics at the profession's command.

R Ammonia muriat..... 3 i
 Syr. pruni. virg.....
 Liquid antipyretic (Tilden's)..... aa 3 jss
 M. Ft. sol.
 Sig.—Teaspoonful every three hours in pneumonia and la grippe.

FORMULAE.

Hay Fever.

℞ Acid (boric).....gr. xx
Mentholgr. iv
Glyco-thymoline..... ̄ ij
Sol. eucain B. 4 per cent.,
.....q. s. ad ̄ ij

Sig.—Use in atomizer.

This treatment is to be used in the most obstinate cases, where there is much irritation of the nasal mucous membrane.—ALEXANDER RIXA.

Varicose Ulcers.

℞ Zinc oxide..... 20 parts
Gelatine 80 parts
Glycerine 20 parts
Waterq. s. ad 200 parts

CARL BECK.

Diphtheria.

The local treatment is taken care of by means of a camel's-hair brush dipped in the following:

℞ Hydrargyri bichloridi..... gr. iss
Glycerini ̄ vj
Hydrogen dioxid ̄ ij

Sig.—Use every hour or two, according to the severity of the case.—DR. M. A. ALBE, in *Cleveland Medical Gazette*, Vol. XIV., No. 3.

Diarrhœa of Typhoid Fever.

℞ Acidi sulphurici aromatici..... ̄ ij
Ext. hamatoxylin. fld..... ̄ ss
Spirit. camphoræ..... ̄ ss
Syrupi zingiberis.....q. s. ad ̄ iij

M. Sig.—Two teaspoonfuls when the stools exceed four in twenty-four hours.—PROF. HARE.

To Relieve the Pain in Cystitis.

℞ Ext. hyocyami.....gr. j
Camphoræ monobrom.....gr. ij
Morphin sulphat.....gr. ss
Cocoa butter.....q. s.

M. Et ft. suppos: N^o. j.

Tonic for Convalescents.

℞ Liq. arsenici chloridi..... ̄ ss
Tinct. ferri chloridi..... ̄ ss
Cinchoninæ sulphatis..... ̄ ij
Strychninæ sulphatis..... ̄ ij
Syrupi.....
Aqueaa q. s. ad ̄ vj

M. S.—Teaspoonful in water three times a day before meals.—*Gaillard's Medical Journal*, Vol. LXXI., No. 1.

For Irrigation of the Bladder.

℞ Acidi borici..... ̄ j
Boraxgr. xxx
Sodii chloridi.....gr. xv
AqueO ij

M. S.—Warm to 100° or 105° F. The irrigation can be performed through a double-current catheter or a meatus nozzle, after the method suggested by Janet, of Paris.—GEORGE T. HOWLAND.

Acute Dysentery.

Sulphate of soda (or magnesia) is given on the first day of the disease, and on the second, third and fourth days every three hours a capsule containing:

℞ Magnesiagr. iv
Bismuth subnitrategr. vj
Pulv. ipecac.....gr. j
Pulv. opium.....gr. ⅓

SODRE.

When Uræmia Threatens.

Use the hot pack over the kidneys, and use:

℞ Pilocarpinegr. ss-j
Hydrochloric acid dilute..... ̄ ij
Aque dist.....q. s. ad ̄ ij

M. Sig.—Teaspoonful every three hours.—N. A. KREMER, in *The Medical and Surgical Monitor*, Vol. II., No. 6.



